



## Rubber Interlaboratory Testing Program

### Summary Report #147- 1st Qtr 06

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<a href="#">687</a>	<a href="#">MDR Vulcanization Charac.: Cure Time 90%</a>
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## **ABOUT THE PROGRAM**

The Collaborative Reference Program for RUBBER, which was initiated in 1969, is operated and maintained by Collaborative Testing Services, Inc. (CTS), with technical guidance provided by the Rubber Division of the American Chemical Society. The program allows laboratories to compare periodically the level and uniformity of their testing with that of other participating laboratories. It also provides a realistic assessment of the state of rubber testing proficiency.

For each test there are summary statistics and a graphical representation of the data. Also shown are notes concerning specific laboratory results, as well as significant findings related to instrument types or other testing variations. Please refer to the section KEY TO TABLES AND GRAPHS for an explanation of terms and guidelines to interpreting the results.

## **ABOUT CTS**

Founded in 1971, CTS is a privately-owned company that specializes in interlaboratory tests for a wide variety of industrial sectors, including rubber, plastics, fasteners and metals, containerboard, paper, wine and color, as well as proficiency tests for forensic laboratories. All of the tests are designed to assist organizations in achieving and maintaining quality control objectives. Labs from the U.S., as well as more than 55 countries, currently participate in the CTS programs.

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## Key for Web Summary Report (Page 1 of 2)

<b>WebCode</b>	Assigned laboratory identification number (temporary) used to ensure lab confidentiality while permitting a lab to locate its data in the Rubber Report published on the CTS Web site. The WebCode for each analysis can be found in the Performance Analysis Report mailed to each participant.
<b>Lab Mean</b>	Tensile & Hardness: the average of the median values obtained for each sample. All other tests: the average of the test results obtained by the participant.
<b>Grand Mean</b>	The average of the LAB MEANS for all included participants. Laboratories flagged with an X or an M (see DATA FLAG column) are excluded from the GRAND MEAN.
<b>Difference from Grand Mean</b>	The difference of the LAB MEAN from the GRAND MEAN.
<b>Between-Lab Standard Deviation</b>	An indication of the precision of measurement between the laboratories. The greater the spread of the LAB MEANS about the GRAND MEAN, the larger the BETWEEN-LAB STANDARD DEVIATION (and vice versa).
<b>Comparative Performance Value</b>	An indication of how well a laboratory's results agree with the other participants. The CPV is a ratio indicating the number of standard deviations from the GRAND MEAN. The closer a laboratory's COMPARATIVE PERFORMANCE VALUE is to zero, the more consistent its results are with the other participants' data (and vice versa). The critical value for each CPV will vary depending on the number of labs participating in a test.
<b>Inst Code</b>	If instruments are tracked in a test, a code indicating the manufacturer of the instrument used to perform the test (see separate INSTRUMENT CODE LIST for each test section).
<b>Data Flag</b>	DATA FLAGS are assigned based on the simultaneous analysis of both samples tested. Refer to the following chart for an explanation of each symbol:

<u>DATA FLAG</u>	<u>STATISTICALLY INCLUDED/EXCLUDED</u>	<u>ACTION REQUIRED</u>
*	INCLUDED	<b>CAUTION</b> - review testing procedure and monitor future results. Results fall outside 95% ellipse but within a 99% ellipse that is calculated but not drawn.
X	EXCLUDED	<b>STOP</b> - immediate review of data and/or testing procedure is required. Results fall outside the 99% ellipse. See specific notes following each table for more information on why the data is excluded.
M	EXCLUDED	<b>PROCEED</b> - lab was unable to report data for at least one sample. However, a lab receiving two of more M flags for a test may need to stop and review its testing procedures.

**Graph** - For each laboratory, the LAB MEAN for the first sample (x-axis) is plotted against the LAB MEAN for the second sample (y-axis) with each point representing a laboratory. The horizontal and vertical cross-hairs are the GRAND MEANS for each sample. When 20 or more laboratories are in the statistics, an ellipse is also drawn so that 95% of the time a randomly selected laboratory will be included inside the ellipse. Plotted data flags are explained above.

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### Common Problems Highlighted in Footnotes

1. **Extreme data** - The laboratory's results for one or both samples are so inconsistent with those of the other participants that the lab mean(s) fall outside the plot. The participant is advised to immediately review his data and/or testing procedure.
2. **Systematic bias** - The laboratory's results are either consistently high or low for both samples when compared to the other participants (the plotted point falls near the top or bottom of the ellipse). This indicates that the participant is performing the test with a constant bias. Causes of systematic errors include improper calibration, the particular make/model of equipment or a modification to the testing procedure.
3. **Inconsistency in testing between samples/sample sets** - The laboratory's results indicate that there are differences in the way the two samples tested (the plotted point falls to the side of the ellipse). This type of error may be attributed to the analyst deviating from the procedure when testing one of the samples or a material interaction occurrence with the instrument or room conditions. The inconsistency is reflected in the CPVs for the two samples, such as a +1.5 CPV for sample A and a -2.2 CPV for sample B. CTS also will specify if the laboratory's data for one sample are high/low compared to the other participants. If this inconsistency is slight, the lab's plotted point will be an \* that falls on the edge of the ellipse.
4. **Inconsistency in testing within a sample** - The laboratory's within-lab standard deviation for a specified sample is high when compared to the other participants, often causing the lab's plotted point to fall outside of the ellipse.
5. **Data appeared to be off by a factor of #.**
6. **Data for two samples (or two tests) appeared to be switched by the lab.**

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Labs flagged with an \* are not typically included in the footnotes of a data table. These labs may locate their position in the control ellipse and use the definitions above to help identify the type of testing error. An \* should serve as a caution flag, a "yellow light", to a lab. If this error is repeated in future rounds, a lab may need to stop and review its testing procedures. The initial data flag is not cause for alarm. Interlaboratory tests conducted at regular intervals permit a lab to recognize trends in testing.

## Rubber Interlaboratory Testing Program

## Analysis 605

## Tensile Strength (psi)

WebCode	Data Flag	Sample A61-A62			Sample A63-A64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
14TVAM		3,406.5	51.1	0.27	3,464.5	121.8	0.63
1DXDZR		3,110.5	-244.9	-1.31	3,070.0	-272.7	-1.41
1GCXMT		3,399.4	43.9	0.23	3,456.3	113.6	0.59
1NDN27		3,403.5	48.1	0.26	3,329.5	-13.2	-0.07
1RXRY4		3,260.5	-94.9	-0.51	3,165.5	-177.2	-0.91
1T3Q5W		3,454.5	99.1	0.53	3,481.5	138.8	0.72
25G3AJ		3,687.5	332.1	1.77	3,545.5	202.8	1.05
2QM6SR		3,440.0	84.6	0.45	3,440.0	97.3	0.50
41T928		3,601.3	245.9	1.31	3,526.6	183.9	0.95
43QM26		3,374.5	19.1	0.10	3,300.0	-42.7	-0.22
4ARUXF		3,515.5	160.1	0.86	3,579.5	236.8	1.22
4S67AD		3,580.5	225.1	1.20	3,562.0	219.3	1.13
5D7KMV		3,050.0	-305.4	-1.63	3,044.0	-298.7	-1.54
5JMDAK		3,507.5	152.1	0.81	3,530.0	187.3	0.97
62WTWM	*	3,124.0	-231.4	-1.24	3,295.0	-47.7	-0.25
6BP2RQ		3,009.5	-345.9	-1.85	3,029.0	-313.7	-1.62
6K2D8N		3,408.5	53.1	0.28	3,460.0	117.3	0.60
7HJ4YP		3,433.3	77.9	0.42	3,411.0	68.2	0.35
7JXX19		3,535.2	179.8	0.96	3,567.2	224.5	1.16
7MPLVA		3,172.0	-183.4	-0.98	3,013.5	-329.2	-1.70
7NQ3U		3,374.5	19.1	0.10	3,247.0	-95.7	-0.49
7XCMSB	X	3,500.5	145.1	0.78	3,085.0	-257.7	-1.33
89VS3C		3,283.0	-72.5	-0.39	3,180.7	-162.0	-0.83
8GNR8M	X	4,234.0	878.6	4.69	4,082.5	739.8	3.81
8QUTXS		3,477.0	121.6	0.65	3,532.0	189.3	0.98
98ZF4L		3,354.5	-0.9	-0.01	3,358.5	15.8	0.08
9LH5A2		3,492.0	136.6	0.73	3,548.5	205.8	1.06
9M4UBF		3,311.5	-43.9	-0.23	3,319.5	-23.2	-0.12
A15WBH		3,393.9	38.5	0.21	3,415.7	73.0	0.38
A78YKP		3,728.0	372.6	1.99	3,663.5	320.8	1.65
AC7C5J		3,205.4	-150.1	-0.80	3,169.1	-173.6	-0.89
ADDWNF		3,422.9	67.5	0.36	3,502.7	160.0	0.82
AUUH4J		3,577.5	222.1	1.19	3,463.0	120.3	0.62
B4AYGS		3,488.2	132.7	0.71	3,488.2	145.5	0.75
BH4C2J		3,181.5	-173.9	-0.93	3,138.0	-204.7	-1.05

## Rubber Interlaboratory Testing Program

## Analysis 605

## Tensile Strength (psi)

WebCode	Data Flag	Sample A61-A62			Sample A63-A64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
BHZWNT		3,042.0	-313.4	-1.67	3,119.5	-223.2	-1.15
BJG1G7		3,190.9	-164.6	-0.88	3,256.1	-86.6	-0.45
BS9DLL		3,535.0	179.6	0.96	3,448.0	105.3	0.54
BY88CK		3,196.5	-158.9	-0.85	3,251.0	-91.7	-0.47
D8A923	*	3,810.5	455.1	2.43	3,846.0	503.3	2.59
DF7JEZ		3,230.5	-124.9	-0.67	3,344.0	1.3	0.01
EZASPX		3,352.5	-2.9	-0.02	3,296.5	-46.2	-0.24
FEXKXX		3,312.0	-43.4	-0.23	3,289.5	-53.2	-0.27
FHHCWS		3,273.2	-82.3	-0.44	3,377.2	34.5	0.18
FQY3DS		3,354.8	-0.7	0.00	3,326.5	-16.2	-0.08
FVTUQ7		3,101.0	-254.4	-1.36	3,079.5	-263.2	-1.36
GB5H14		3,344.5	-10.9	-0.06	3,368.0	25.3	0.13
H7DHY7		3,483.4	128.0	0.68	3,480.7	137.9	0.71
HK5JMM		3,460.0	104.6	0.56	3,485.5	142.8	0.74
HKMRH4		3,620.3	264.8	1.42	3,481.6	138.9	0.72
HPCSE5		3,520.5	165.1	0.88	3,626.5	283.8	1.46
J346NH		3,221.6	-133.8	-0.72	3,234.2	-108.6	-0.56
J9CMS6		3,340.0	-15.4	-0.08	3,169.5	-173.2	-0.89
JXSH88		3,399.7	44.3	0.24	3,474.4	131.7	0.68
K2QS4F		3,144.4	-211.0	-1.13	3,240.2	-102.5	-0.53
K6F79N		3,636.0	280.6	1.50	3,588.0	245.3	1.26
KCSLQL		3,499.5	144.1	0.77	3,357.0	14.3	0.07
KHD3T3		3,259.0	-96.4	-0.52	3,294.0	-48.7	-0.25
KQD2CX		3,451.0	95.6	0.51	3,318.5	-24.2	-0.12
KSMX3F		3,050.0	-305.4	-1.63	2,930.0	-412.7	-2.13
KWPXQ7		3,273.0	-82.4	-0.44	3,266.0	-76.7	-0.40
KY817C		3,111.8	-243.6	-1.30	3,204.6	-138.1	-0.71
KYFYR1	X	3,035.0	-320.4	-1.71	3,277.5	-65.2	-0.34
L4BE78		3,286.5	-68.9	-0.37	3,136.5	-206.2	-1.06
L61P99		3,729.0	373.5	2.00	3,688.3	345.6	1.78
LKCVY8		2,924.5	-430.9	-2.30	2,865.0	-477.7	-2.46
LTF5ZR		3,511.0	155.6	0.83	3,535.5	192.8	0.99
M4NSCB		3,136.0	-219.4	-1.17	3,060.0	-282.7	-1.46
M8XEFE		3,576.0	220.6	1.18	3,523.0	180.3	0.93
MAK992		3,252.0	-103.5	-0.55	3,337.5	-5.2	-0.03

## Rubber Interlaboratory Testing Program

## Analysis 605

## Tensile Strength (psi)

WebCode	Data Flag	Sample A61-A62			Sample A63-A64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MNC984		3,519.4	163.9	0.88	3,439.9	97.1	0.50
MTG8EL		3,280.0	-75.4	-0.40	3,214.5	-128.2	-0.66
N15RTU		2,915.3	-440.2	-2.35	2,932.0	-410.7	-2.12
N8NV43		3,396.1	40.6	0.22	3,379.4	36.7	0.19
NJ3MQS		3,357.0	1.6	0.01	3,324.5	-18.2	-0.09
P7BFF9		3,249.5	-105.9	-0.57	3,378.0	35.3	0.18
P8E66V		3,623.5	268.1	1.43	3,718.5	375.8	1.94
P9BTPE		3,611.0	255.6	1.37	3,609.0	266.3	1.37
PRSL3R		3,592.5	237.1	1.27	3,606.5	263.8	1.36
PVR5QP		3,177.8	-177.6	-0.95	3,156.0	-186.7	-0.96
PWJAS1		3,562.5	207.0	1.11	3,471.1	128.3	0.66
QHFN1B		3,277.5	-77.9	-0.42	3,341.5	-1.2	-0.01
RWRAEA		3,506.0	150.6	0.80	3,513.5	170.8	0.88
RYLCT5		3,453.0	97.6	0.52	3,432.0	89.3	0.46
RYNH9K		3,123.0	-232.4	-1.24	3,016.0	-326.7	-1.68
SK8MT3		3,335.3	-20.2	-0.11	3,290.3	-52.5	-0.27
SSVA25		3,439.6	84.2	0.45	3,547.4	204.7	1.06
SV5NAD	X	2,624.0	-731.4	-3.91	2,505.0	-837.7	-4.32
TDNKWB		3,183.6	-171.8	-0.92	3,024.1	-318.6	-1.64
TM58RP		3,515.0	159.6	0.85	3,490.5	147.8	0.76
TZ7K5A		3,302.0	-53.4	-0.29	3,201.5	-141.2	-0.73
UGYT67		3,189.5	-165.9	-0.89	3,167.5	-175.2	-0.90
UR7RZN		3,562.9	207.4	1.11	3,575.9	233.2	1.20
UYP7SZ		3,068.0	-287.4	-1.54	3,001.5	-341.2	-1.76
UYSP5P		3,298.5	-56.9	-0.30	3,265.0	-77.7	-0.40
VE27PV		3,368.5	13.1	0.07	3,296.0	-46.7	-0.24
VKRRYR		3,198.1	-157.3	-0.84	3,248.9	-93.8	-0.48
WKE9U5		3,534.5	179.1	0.96	3,494.5	151.8	0.78
WWEX3E		3,620.2	264.7	1.41	3,488.9	146.2	0.75
WXD819		3,415.4	59.9	0.32	3,336.9	-5.8	-0.03
WYANNS		3,358.0	2.6	0.01	3,372.0	29.3	0.15
XA7JND		3,019.0	-336.4	-1.80	3,064.5	-278.2	-1.43
XJT2T1		3,433.8	78.4	0.42	3,442.5	99.8	0.51
XKV7P7		3,320.2	-35.2	-0.19	3,361.3	18.6	0.10
XWQ3MF		3,341.0	-14.5	-0.08	3,464.3	121.5	0.63

## Analysis 605

## Tensile Strength (psi)

WebCode	Data Flag	Sample A61-A62			Sample A63-A64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
Y38KWY		3,054.0	-301.4	-1.61	3,083.5	-259.2	-1.34
Y3XL3N		3,194.5	-160.9	-0.86	3,152.5	-190.2	-0.98
Y96GZ3		3,189.5	-165.9	-0.89	3,119.0	-223.7	-1.15
YEZEWG		3,202.0	-153.4	-0.82	3,188.0	-154.7	-0.80
YMCW4C		3,497.6	142.2	0.76	3,523.0	180.3	0.93

## Summary Statistics

## Grand Means

3,355.44 psi

3,342.71 psi

## Std Dev Btwn Labs

187.16 psi

194.05 psi

Statistics based on 106 of 110 reporting participants

## Summary Statistics in SI Units

## Grand Means

23.135 MPa

23.05 MPa

## Std Dev Btwn Labs

1.290 MPa

1.34 MPa

Statistics based on 106 of 110 reporting participants

Samples A61-A62: Polyisoprene compound, batch #1 &amp; A63-A64: Polyisoprene compound, batch #2

Comments on assigned Data Flags for Test #605

7XCMSB (X) - Inconsistency in testing between Sample sets. Also inconsistent within the determinations for Sample set A63-A64.

8GNR8M (X) - Data for all Samples are high.

KYFYR1 (X) - Inconsistency in testing between Sample sets.

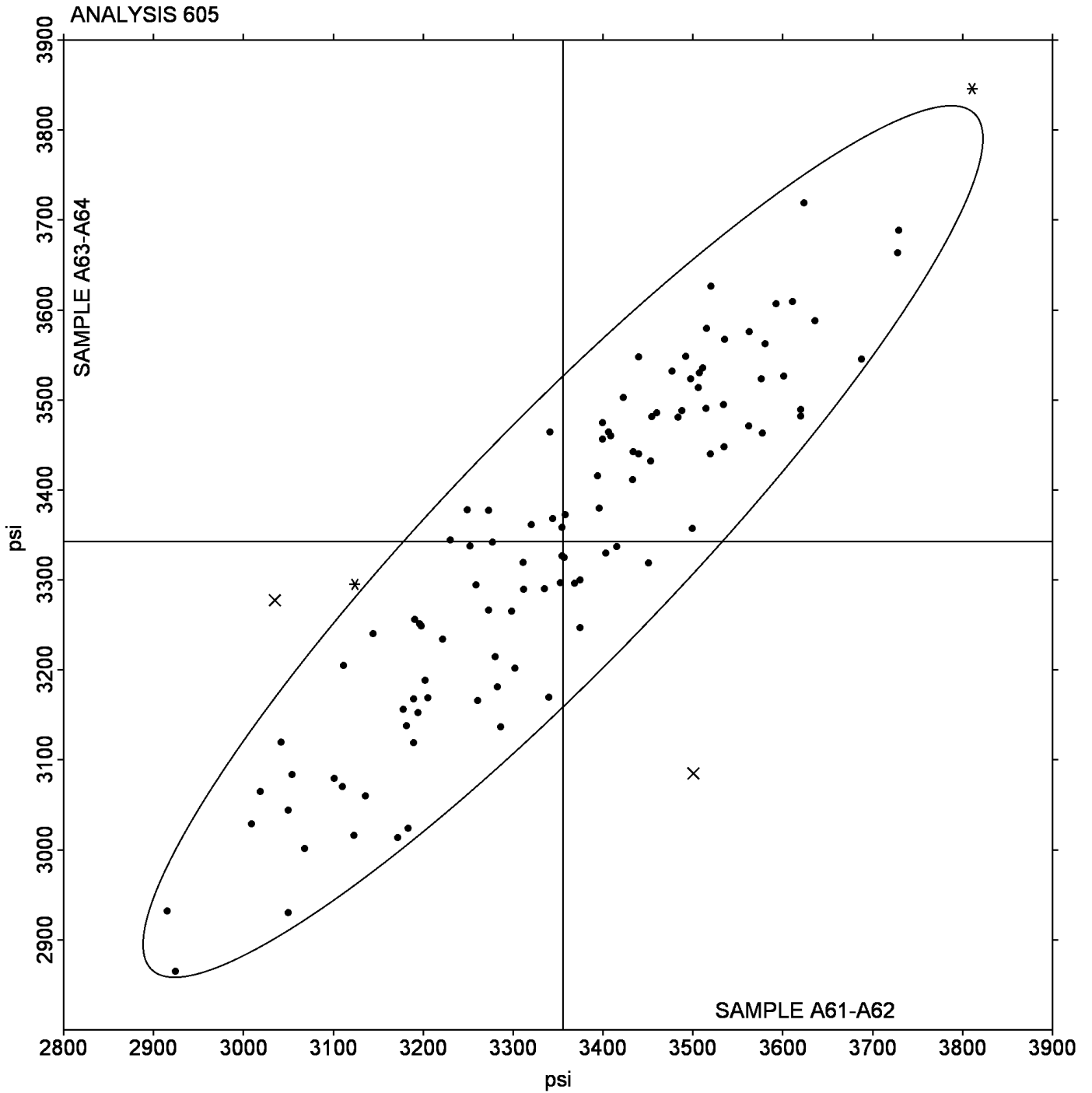
SV5NAD (X) - Data for all Samples are low.

Analysis 605

Tensile Strength (psi)

Grand Mean Sample A61-A62 = 3,355.44 psi

Grand Mean Sample A63-A64 = 3,342.71 psi



## Analysis 606

## Ultimate Elongation (percent)

WebCode	Data Flag	Sample A61-A62			Sample A63-A64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
14NYXB		538.1	-41.7	-1.59	546.2	-34.1	-1.31
17MW3B		542.5	-37.3	-1.42	541.5	-38.7	-1.49
17TH4K		561.0	-18.8	-0.72	564.5	-15.7	-0.61
182KR4		596.5	16.7	0.64	604.0	23.8	0.92
18AJ4B		600.5	20.7	0.79	611.5	31.3	1.20
1ATR8U	X	618.5	38.7	1.47	588.0	7.8	0.30
1UMYKX		575.0	-4.8	-0.18	580.0	-0.2	-0.01
2G4RTR		582.6	2.8	0.11	590.9	10.6	0.41
32VM9Q		529.5	-50.3	-1.92	541.0	-39.2	-1.51
36GBAT	*	550.0	-29.8	-1.14	532.0	-48.2	-1.86
3UHM4E		615.0	35.2	1.34	616.0	35.8	1.38
466KHN		591.1	11.2	0.43	584.4	4.1	0.16
4QM18G	X	509.0	-70.8	-2.70	543.0	-37.2	-1.44
52MBKW		580.5	0.7	0.03	583.0	2.8	0.11
5M6X3D		582.0	2.2	0.08	597.5	17.3	0.66
6JQB72		583.5	3.7	0.14	582.5	2.3	0.09
6VQU7W		567.5	-12.3	-0.47	570.5	-9.7	-0.38
6ZAZ7Y		557.5	-22.3	-0.85	550.0	-30.2	-1.17
7MUM2P		590.5	10.7	0.41	595.0	14.8	0.57
83F2Q1		602.5	22.7	0.86	597.0	16.8	0.65
8CKT2A		628.0	48.2	1.84	624.5	44.3	1.70
8YW9AS		581.5	1.7	0.06	577.5	-2.7	-0.11
96XG8R		567.5	-12.3	-0.47	568.5	-11.7	-0.45
A8S1VX	X	645.5	65.7	2.50	684.0	103.8	4.00
AL1CAH		604.0	24.2	0.92	597.0	16.8	0.65
AWDDRC		611.0	31.2	1.19	614.0	33.8	1.30
AZ8FAS		579.6	-0.2	-0.01	573.9	-6.4	-0.25
B3XFBE		551.0	-28.8	-1.10	548.0	-32.2	-1.24
BBFTWH		567.0	-12.8	-0.49	567.5	-12.7	-0.49
BLF8K9		572.0	-7.8	-0.30	576.0	-4.2	-0.16
BTN8EL		581.0	1.2	0.05	587.5	7.3	0.28
BW67U1		555.5	-24.3	-0.93	553.5	-26.7	-1.03
C3FJVN		601.1	21.2	0.81	589.3	9.0	0.35
CZFDES		516.5	-63.3	-2.41	516.5	-63.7	-2.46
DQ4L8J		564.0	-15.8	-0.60	565.0	-15.2	-0.59

## Rubber Interlaboratory Testing Program

## Analysis 606

## Ultimate Elongation (percent)

WebCode	Data Flag	Sample A61-A62			Sample A63-A64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
DRLNHR		606.5	26.7	1.02	592.0	11.8	0.45
DUQB2M		558.0	-21.8	-0.83	554.0	-26.2	-1.01
E1Q4HT		566.5	-13.3	-0.51	561.0	-19.2	-0.74
EAESJ5		590.0	10.2	0.39	584.0	3.8	0.14
EM4MSA		600.0	20.2	0.77	595.0	14.8	0.57
ERBDG9		607.0	27.2	1.04	607.5	27.3	1.05
FTM8JW		590.5	10.7	0.41	595.0	14.8	0.57
G1D886	X	635.0	55.2	2.10	596.5	16.3	0.63
G3MA2L		615.0	35.2	1.34	620.0	39.8	1.53
GP5AK6		572.0	-7.8	-0.30	574.5	-5.7	-0.22
H6V6YE		600.0	20.2	0.77	608.5	28.3	1.09
H9X1J5		582.0	2.2	0.08	568.5	-11.7	-0.45
J4U2AD		580.0	0.2	0.01	585.0	4.8	0.18
J52FJE		539.1	-40.7	-1.55	552.9	-27.4	-1.06
JFVLXC		609.0	29.2	1.11	612.0	31.8	1.22
K94JGL		576.2	-3.6	-0.14	580.9	0.6	0.02
K9K3YX		589.5	9.7	0.37	592.5	12.3	0.47
KAJXZ2		559.5	-20.3	-0.77	562.0	-18.2	-0.70
KEPV1F		605.0	25.2	0.96	614.5	34.3	1.32
KF4M9R		561.5	-18.3	-0.70	552.5	-27.7	-1.07
KM6TVL		567.0	-12.8	-0.49	569.0	-11.2	-0.43
KS59W1		589.6	9.8	0.37	595.4	15.1	0.58
KYP5MQ		564.5	-15.3	-0.58	561.5	-18.7	-0.72
KZTUE8	X	721.0	141.2	5.38	724.0	143.8	5.54
L116LA		622.0	42.2	1.61	628.0	47.8	1.84
LWWA39		555.5	-24.3	-0.93	576.0	-4.2	-0.16
MA9U9D		523.0	-56.8	-2.16	521.0	-59.2	-2.28
MN69NG	X	430.0	-149.8	-5.71	432.0	-148.2	-5.71
MT7LD7		549.5	-30.3	-1.15	537.5	-42.7	-1.65
N1SXCU		575.5	-4.3	-0.16	569.0	-11.2	-0.43
NBVVM4		556.5	-23.3	-0.89	564.0	-16.2	-0.63
NF6PAD		598.0	18.2	0.69	596.5	16.3	0.63
NL3TDP		535.0	-44.8	-1.71	545.0	-35.2	-1.36
NL69RJ		566.5	-13.3	-0.51	579.5	-0.7	-0.03
NYDL43		539.5	-40.3	-1.54	551.5	-28.7	-1.11

## Rubber Interlaboratory Testing Program

## Analysis 606

## Ultimate Elongation (percent)

WebCode	Data Flag	Sample A61-A62			Sample A63-A64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
P68HC6		610.0	30.2	1.15	623.5	43.3	1.67
PHUX8F		580.0	0.2	0.01	579.5	-0.7	-0.03
PTD3E5		571.5	-8.3	-0.32	558.0	-22.2	-0.86
PW7DKA		629.6	49.8	1.90	624.4	44.2	1.70
PWWQ23		607.5	27.7	1.06	610.0	29.8	1.15
Q2U1XA		592.9	13.0	0.50	576.5	-3.7	-0.14
Q98C6M		606.2	26.3	1.00	604.6	24.4	0.94
QBT21T		572.0	-7.8	-0.30	590.5	10.3	0.39
QFPGTA	*	597.0	17.2	0.65	574.5	-5.7	-0.22
QGQCPE		564.5	-15.3	-0.58	577.0	-3.2	-0.13
QN61YT		570.5	-9.3	-0.35	576.0	-4.2	-0.16
RAH9ZA		606.8	27.0	1.03	598.0	17.8	0.68
RW8U9L		620.0	40.2	1.53	604.0	23.8	0.92
S6HZEV		571.0	-8.8	-0.34	564.5	-15.7	-0.61
SD1APQ		597.0	17.2	0.65	591.0	10.8	0.41
SDAU11		573.5	-6.3	-0.24	568.0	-12.2	-0.47
SEGZ3U		576.5	-3.3	-0.13	584.0	3.8	0.14
SZURQA		562.5	-17.3	-0.66	569.5	-10.7	-0.41
T1JFMQ		569.0	-10.8	-0.41	567.0	-13.2	-0.51
T1TKQY		590.0	10.2	0.39	577.0	-3.2	-0.13
THQQE3	X	570.4	-9.5	-0.36	602.7	22.4	0.86
TMSEBP		630.0	50.2	1.91	624.5	44.3	1.70
TSEWHS		558.0	-21.8	-0.83	567.5	-12.7	-0.49
UU3ME6		521.3	-58.6	-2.23	522.5	-57.7	-2.23
VSA2YZ		548.0	-31.8	-1.21	559.5	-20.7	-0.80
W5MEGD		581.0	1.2	0.05	588.5	8.3	0.32
WR1S3U		571.0	-8.8	-0.34	573.0	-7.2	-0.28
WXQ9G5		615.5	35.7	1.36	606.5	26.3	1.01
XN46CN		593.5	13.7	0.52	590.5	10.3	0.39
XRRCXD		594.0	14.2	0.54	601.5	21.3	0.82
XU6KUH		572.5	-7.3	-0.28	573.0	-7.2	-0.28
XZ1C97		590.0	10.2	0.39	582.0	1.8	0.07
XZGLAU	X	629.0	49.2	1.87	678.0	97.8	3.77
YF1GA9		612.5	32.7	1.25	614.0	33.8	1.30
YHL2SS		538.3	-41.5	-1.58	528.6	-51.7	-1.99

## Analysis 606

## Ultimate Elongation (percent)

WebCode	Data Flag	Sample A61-A62			Sample A63-A64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
YVNQJJ		562.5	-17.3	-0.66	567.0	-13.2	-0.51
ZD3834		595.5	15.7	0.60	602.0	21.8	0.84
ZDWN9P	*	654.8	74.9	2.86	654.8	74.5	2.87

Grand Means		Summary Statistics	
	579.81 percent		580.25 percent
Std Dev Btwn Labs	26.24 percent		25.95 percent
Statistics based on 100 of 108 reporting participants			

Samples A61-A62: Polyisoprene compound, batch #1 & A63-A64: Polyisoprene compound, batch #2

### Comments on assigned Data Flags for Test #606

1ATR8U (X) - Inconsistency in testing between Sample sets.

4QM18G (X) - Inconsistency in testing between Sample sets.

A8S1VX (X) - Inconsistency in testing between Sample sets, data for samples A63-A64 are high. Also inconsistent in testing within the determinations for Sample set A61-A62.

G1D886 (X) - Inconsistency in testing between Sample sets. Also inconsistent in testing within the determinations for Sample set A63-A64.

KZTUE8 (X) - Data for all Samples are high.

MN69NG (X) - Inconsistency in testing between Sample sets. Also inconsistent in testing within the determinations for both Sample sets.

THQQE3 (X) - Inconsistency in testing between Sample sets. Also inconsistent in testing within the determinations for Sample set A61-A62.

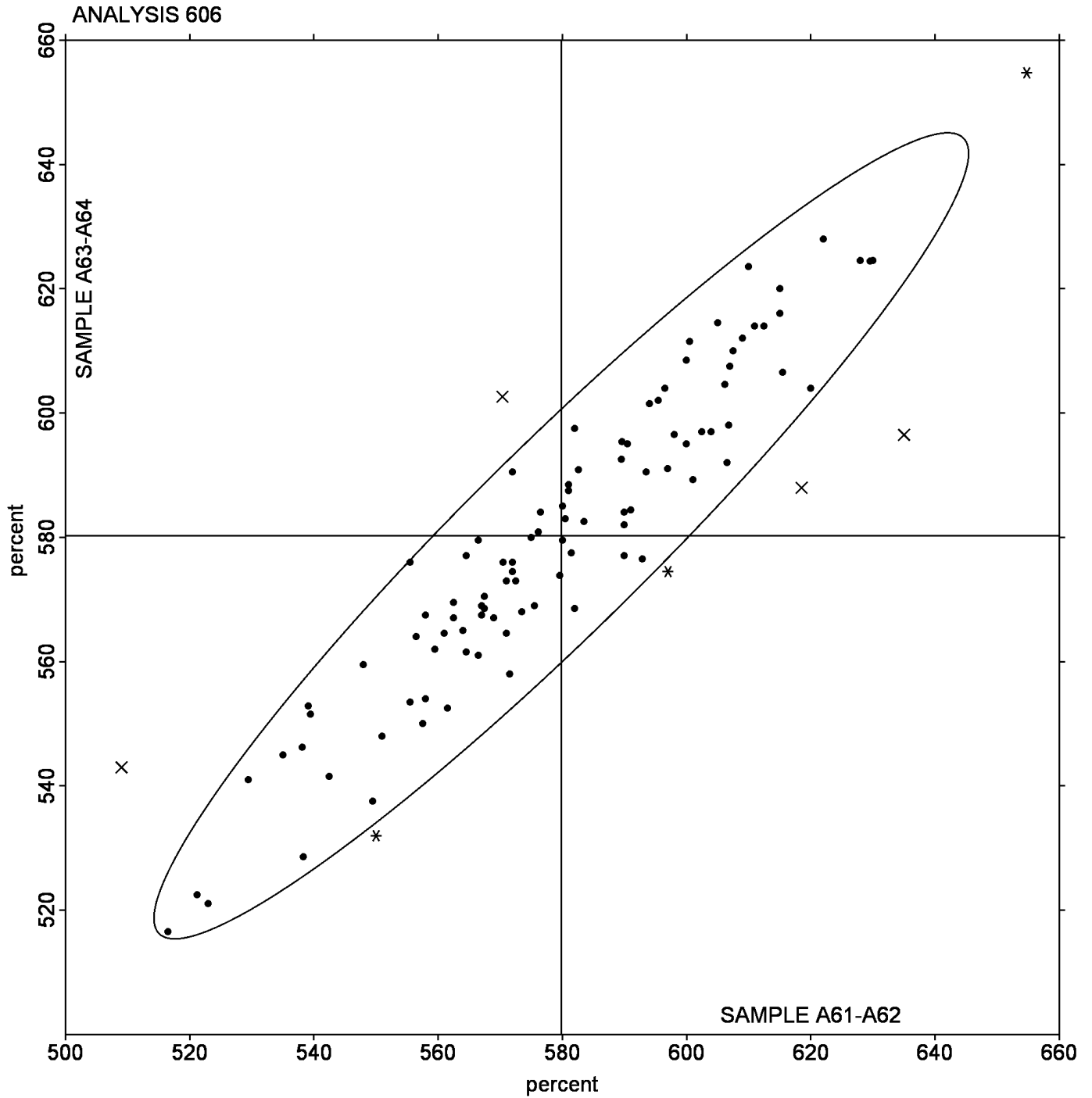
XZGLAU (X) - Inconsistency in testing between Sample sets. Data for Sample set A63-A64 are high.

Analysis 606

Ultimate Elongation (percent)

Grand Mean Sample A61-A62 = 579.81 percent

Grand Mean Sample A63-A64 = 580.25 percent



## Rubber Interlaboratory Testing Program

## Analysis 607

## Stress at 300% Elongation (psi)

WebCode	Data Flag	Sample A61-A62			Sample A63-A64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
13ATEA		1,129.9	11.1	0.13	1,095.0	-19.5	-0.23
1H4HDD		1,118.0	-0.8	-0.01	1,094.5	-20.0	-0.24
1NNH4Q		982.6	-136.2	-1.61	1,002.9	-111.6	-1.32
23723R		1,280.1	161.3	1.91	1,230.3	115.8	1.37
23V498		1,126.0	7.2	0.09	1,130.5	16.0	0.19
2N5MK3		1,148.9	30.1	0.36	1,149.2	34.7	0.41
2Z18US		1,086.5	-32.3	-0.38	1,092.5	-22.0	-0.26
2ZTEPY		1,044.5	-74.3	-0.88	1,002.0	-112.5	-1.34
39C4WY		1,177.5	58.7	0.69	1,184.5	70.0	0.83
3AQ3CS		993.0	-125.8	-1.49	1,041.0	-73.5	-0.87
3BHQCJ		1,037.5	-81.3	-0.96	1,088.0	-26.5	-0.31
3N3D4G		1,066.5	-52.3	-0.62	1,049.5	-65.0	-0.77
4VW9GY		1,157.5	38.7	0.46	1,103.0	-11.5	-0.14
4YZLGS		1,081.5	-37.3	-0.44	1,140.0	25.5	0.30
5VPTEG		1,051.5	-67.3	-0.80	1,002.5	-112.0	-1.33
64FE7Q		1,056.0	-62.8	-0.74	1,043.5	-71.0	-0.84
75M8CP		1,127.5	8.7	0.10	1,158.5	44.0	0.52
7BE5NZ		1,149.7	30.9	0.37	1,083.5	-31.1	-0.37
7LHGMM		1,112.0	-6.8	-0.08	1,089.5	-25.0	-0.30
85UXVC		1,142.9	24.1	0.29	1,168.3	53.8	0.64
8KAU48		1,093.5	-25.3	-0.30	1,044.0	-70.5	-0.84
8PQJHP		1,050.0	-68.8	-0.81	1,051.0	-63.5	-0.75
8WQWKB		1,095.3	-23.5	-0.28	1,062.3	-52.2	-0.62
9H52ZS		1,111.5	-7.3	-0.09	1,124.5	10.0	0.12
9UBPW8		1,119.5	0.7	0.01	1,085.5	-29.0	-0.34
9XMGCW	*	1,235.5	116.7	1.38	1,307.5	193.0	2.29
9YY88L	*	905.5	-213.3	-2.52	907.0	-207.5	-2.46
A1SKDS		1,116.8	-2.0	-0.02	1,109.5	-5.0	-0.06
A9TWS1		1,181.1	62.3	0.74	1,226.2	111.7	1.33
AEVWVC		1,244.4	125.6	1.49	1,174.1	59.6	0.71
AFXMC6		1,055.9	-62.9	-0.74	1,069.7	-44.8	-0.53
AK31FA		1,028.5	-90.3	-1.07	1,055.5	-59.0	-0.70
ASGZW7		1,032.0	-86.8	-1.03	1,062.5	-52.0	-0.62
AZ4JG		1,035.5	-83.3	-0.99	1,100.7	-13.8	-0.16
B2CYX7		1,135.0	16.2	0.19	1,192.0	77.5	0.92

## Rubber Interlaboratory Testing Program

## Analysis 607

## Stress at 300% Elongation (psi)

WebCode	Data Flag	Sample A61-A62			Sample A63-A64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
BVX8JS		1,045.0	-73.8	-0.87	1,045.0	-69.5	-0.82
CDEHL5		1,289.4	170.6	2.02	1,247.3	132.8	1.58
CGRYFX		1,084.3	-34.5	-0.41	1,125.2	10.7	0.13
CWG2JT	*	1,342.0	223.2	2.64	1,316.5	202.0	2.40
CX863G		1,188.0	69.2	0.82	1,145.0	30.5	0.36
DBDFSM		1,108.0	-10.8	-0.13	1,195.0	80.5	0.96
DXUVAG		1,025.0	-93.8	-1.11	976.5	-138.0	-1.64
EFRPL5		1,196.5	77.7	0.92	1,197.0	82.5	0.98
F54MNP		1,082.8	-36.0	-0.43	998.6	-115.9	-1.37
FNTF2K		1,055.5	-63.3	-0.75	1,033.5	-81.0	-0.96
G4UNGM		1,285.8	167.0	1.98	1,274.9	160.4	1.90
GEXSR3		1,270.0	151.2	1.79	1,199.5	85.0	1.01
GLAEZD		1,110.0	-8.8	-0.10	1,152.0	37.5	0.44
GUG7D1		1,188.0	69.2	0.82	1,162.0	47.5	0.56
H5RE1X		1,006.8	-112.0	-1.33	1,031.4	-83.1	-0.99
HJECEG		1,106.0	-12.8	-0.15	1,128.0	13.5	0.16
HTP2QD		1,211.1	92.3	1.09	1,228.5	114.0	1.35
JPAZKE		1,155.0	36.2	0.43	1,132.5	18.0	0.21
JQ3R7E		1,091.6	-27.2	-0.32	1,089.4	-25.1	-0.30
JUN1LC		1,188.5	69.7	0.82	1,150.0	35.5	0.42
KDB2LF		1,130.5	11.7	0.14	1,054.0	-60.5	-0.72
KNNA4F		1,030.0	-88.8	-1.05	1,087.5	-27.0	-0.32
KNRB5M		1,045.7	-73.1	-0.86	1,032.8	-81.7	-0.97
KW9EU2	*	1,027.0	-91.8	-1.09	1,132.0	17.5	0.21
LKBZF8		1,244.0	125.2	1.48	1,264.0	149.5	1.77
LLRU3C		1,129.0	10.2	0.12	1,114.5	0.0	0.00
MPURT4		1,156.0	37.2	0.44	1,111.7	-2.8	-0.03
MQ6HN6		1,186.5	67.7	0.80	1,132.0	17.5	0.21
MZ1FU5		1,039.9	-78.9	-0.93	1,029.1	-85.5	-1.01
P36KX5		1,106.0	-12.8	-0.15	1,098.5	-16.0	-0.19
P49F6P		1,060.5	-58.3	-0.69	1,094.0	-20.5	-0.24
PBW8RM		1,211.5	92.7	1.10	1,273.0	158.5	1.88
QA15LK		1,237.4	118.6	1.40	1,246.0	131.5	1.56
QRPBMY	*	1,264.8	146.0	1.73	1,346.6	232.1	2.75
QYP7NP		1,303.0	184.2	2.18	1,294.0	179.5	2.13

## Rubber Interlaboratory Testing Program

## Analysis 607

## Stress at 300% Elongation (psi)

WebCode	Data Flag	Sample A61-A62			Sample A63-A64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
S2N11K		1,129.9	11.1	0.13	1,162.5	48.0	0.57
SFS8BP		1,090.5	-28.3	-0.33	1,063.5	-51.0	-0.61
SKDZKJ		1,092.0	-26.8	-0.32	1,052.5	-62.0	-0.74
SQRQ8D		1,110.0	-8.8	-0.10	1,090.0	-24.5	-0.29
STP333		1,107.5	-11.3	-0.13	1,045.5	-69.0	-0.82
T973WY		1,110.0	-8.8	-0.10	1,033.5	-81.0	-0.96
TD4VFA		945.0	-173.8	-2.06	967.0	-147.5	-1.75
TGZSRB	X	1,448.0	329.2	3.90	1,489.0	374.5	4.44
TX8SG6		1,185.3	66.5	0.79	1,164.5	50.0	0.59
U346AV		1,158.1	39.3	0.46	1,105.0	-9.5	-0.11
UJEDFF	X	1,474.0	355.2	4.20	1,425.5	311.0	3.69
UUD344	X	1,403.5	284.7	3.37	1,371.5	257.0	3.05
VXG6X5		984.0	-134.8	-1.60	1,006.0	-108.5	-1.29
W348LQ		1,098.5	-20.3	-0.24	1,122.0	7.5	0.09
W59RAL		1,198.0	79.2	0.94	1,164.5	50.0	0.59
WPNV39		1,137.1	18.3	0.22	1,162.5	48.0	0.57
XR6VZ9		1,135.0	16.2	0.19	1,091.0	-23.5	-0.28
XXUSM7		1,132.5	13.7	0.16	1,098.5	-16.0	-0.19
Y5P3H8		1,243.3	124.6	1.47	1,194.4	79.9	0.95
YBRKFM		1,084.0	-34.8	-0.41	1,088.5	-26.0	-0.31
YC1G14		1,176.5	57.7	0.68	1,093.0	-21.5	-0.26
YGUY8Y		1,187.7	68.9	0.81	1,134.3	19.8	0.23
YHT3TL		1,124.0	5.2	0.06	1,177.5	63.0	0.75
YNG9ET	X	1,069.7	-49.1	-0.58	922.4	-192.1	-2.28
YRBNN5		1,110.0	-8.8	-0.10	1,084.5	-30.0	-0.36
YU3N3T		1,073.3	-45.5	-0.54	1,080.5	-34.0	-0.40
YY9CDU		1,120.0	1.2	0.01	1,146.0	31.5	0.37
Z3MBK9	X	1,535.0	416.2	4.92	1,630.0	515.5	6.12
Z8834N		946.9	-171.9	-2.03	945.2	-169.3	-2.01
ZS3HXX		1,042.5	-76.3	-0.90	1,074.5	-40.0	-0.47
ZWUF5G		972.5	-146.3	-1.73	987.0	-127.5	-1.51

## Analysis 607

## Stress at 300% Elongation (psi)

## Summary Statistics

## Grand Means

1,118.80 psi

1,114.50 psi

## Std Dev Btwn Labs

84.51 psi

84.27 psi

Statistics based on 96 of 101 reporting participants

## Summary Statistics in SI Units

## Grand Means

7.7138 MPa

7.68 MPa

## Std Dev Btwn Labs

0.5827 MPa

0.58 MPa

Statistics based on 96 of 101 reporting participants

Samples A61-A62: Polyisoprene compound, batch #1 &amp; A63-A64: Polyisoprene compound, batch #2

**Comments on assigned Data Flags for Test #607**

TGZSRB (X) - Data for all Samples are high. Possible Systematic Error.

UJEDFF (X) - Data for all Samples are high. Possible Systematic Error.

UUD344 (X) - Data for all Samples are high. Possible Systematic Error.

YNG9ET (X) - Inconsistency in testing between Sample sets.

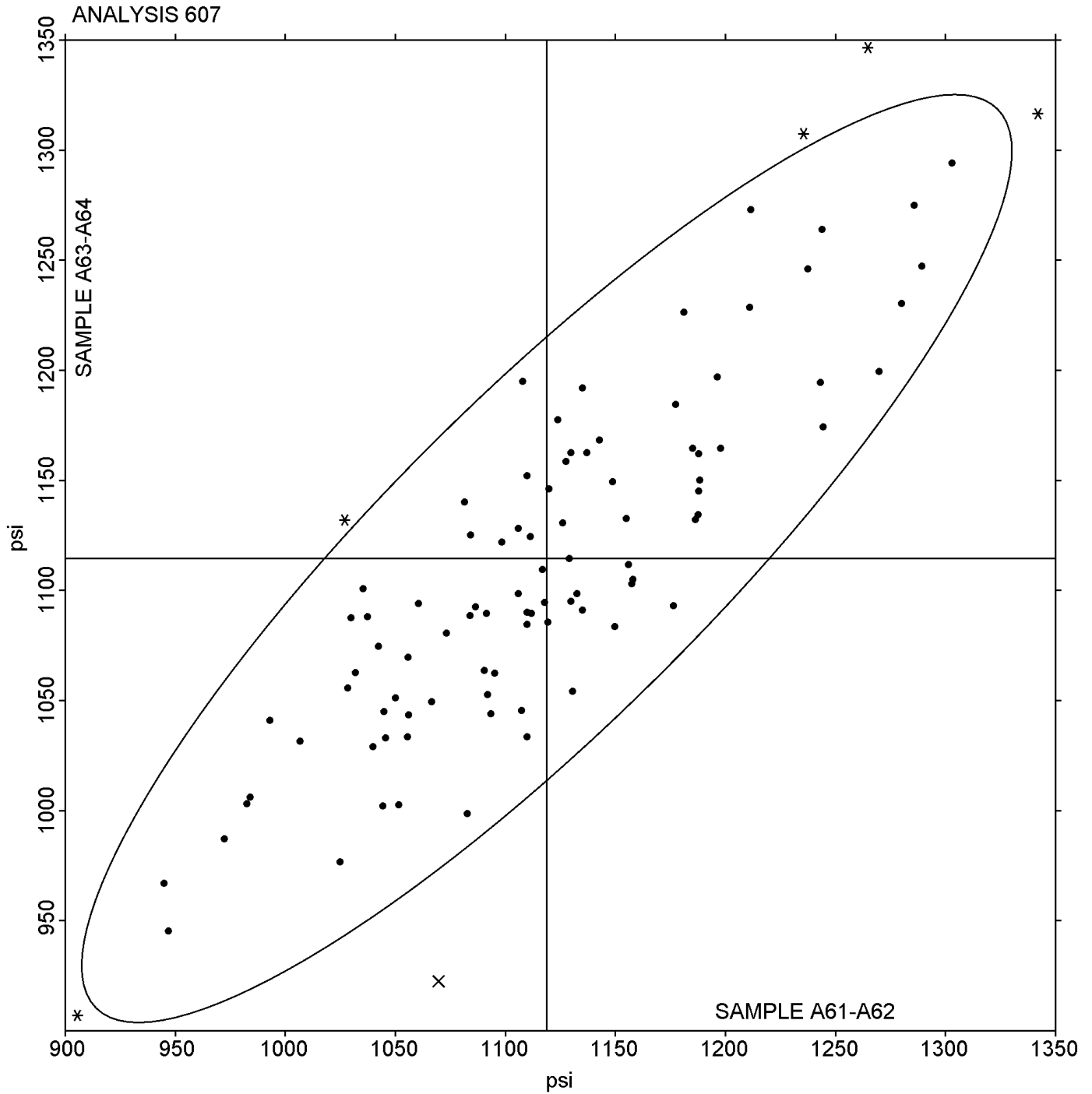
Z3MBK9 (X) - Inconsistency in testing between Sample sets. Data for sample set A63-A64 are high. Also Inconsistent in testing within the determinations for both Sample sets.

Analysis 607

Stress at 300% Elongation (psi)

Grand Mean Sample A61-A62 = 1,118.80 psi

Grand Mean Sample A63-A64 = 1,114.50 psi



## Rubber Interlaboratory Testing Program

## Analysis 608

## Stress at 100% Elongation (psi)

WebCode	Data Flag	Sample A61-A62			Sample A63-A64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
1GJHPU		223.0	-16.1	-1.06	229.0	-9.1	-0.60
1Z8EX3	X	284.0	44.9	2.95	252.5	14.4	0.95
21U57F		251.0	11.9	0.78	245.5	7.4	0.49
2CRJH4		275.9	36.8	2.42	270.5	32.4	2.13
2R43QZ		224.5	-14.6	-0.96	228.0	-10.1	-0.66
38EVJT		247.3	8.2	0.54	252.4	14.3	0.94
3BX5PZ		236.3	-2.8	-0.19	233.3	-4.8	-0.32
3D7WXF		229.5	-9.6	-0.63	221.5	-16.6	-1.09
3MVCAQ		235.0	-4.1	-0.27	233.0	-5.1	-0.34
4KJXGP		242.5	3.4	0.22	252.5	14.4	0.95
4QLCFY		240.5	1.4	0.09	228.5	-9.6	-0.63
4VQTYK		224.5	-14.6	-0.96	229.0	-9.1	-0.60
56ZWCU		217.0	-22.1	-1.45	220.5	-17.6	-1.16
5KUFKT		240.0	0.9	0.06	243.5	5.4	0.36
5M1L91		269.0	29.9	1.96	274.0	35.9	2.36
5PAME6	X	494.5	255.4	16.77	481.5	243.4	16.01
6BW1F5		270.0	30.9	2.03	273.5	35.4	2.33
6CXV75		249.5	10.4	0.68	244.0	5.9	0.39
6TA71V		238.5	-0.6	-0.04	224.0	-14.1	-0.93
6YK47Q		259.0	19.9	1.31	245.0	6.9	0.45
6ZKN5W		233.5	-5.6	-0.37	234.0	-4.1	-0.27
75LCWA		231.0	-8.1	-0.53	229.5	-8.6	-0.57
7MEBCX		239.9	0.8	0.05	233.9	-4.2	-0.27
7RRSY2		238.6	-0.5	-0.03	227.7	-10.4	-0.68
81XWN8		224.5	-14.6	-0.96	231.5	-6.6	-0.43
843FVG		229.1	-10.0	-0.66	238.3	0.2	0.01
8BBHSW		246.3	7.2	0.47	228.2	-9.9	-0.65
8FSAXA		243.5	4.4	0.29	249.4	11.3	0.74
95ZC7S		252.5	13.4	0.88	258.0	19.9	1.31
9J11CB		213.6	-25.5	-1.68	226.4	-11.7	-0.77
9KA4UH	X	216.5	-22.6	-1.48	243.5	5.4	0.36
9PCVEG		276.0	36.9	2.42	269.5	31.4	2.07
9X7V72		263.8	24.8	1.63	263.8	25.7	1.69
ANGUZN	*	235.0	-4.1	-0.27	259.0	20.9	1.37
AXB7GB		224.0	-15.1	-0.99	230.0	-8.1	-0.53

## Rubber Interlaboratory Testing Program

## Analysis 608

## Stress at 100% Elongation (psi)

WebCode	Data Flag	Sample A61-A62			Sample A63-A64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
B3G6PR		212.5	-26.6	-1.75	216.5	-21.6	-1.42
B8GATD		258.5	19.4	1.27	244.5	6.4	0.42
BD7KCX		233.2	-5.9	-0.39	237.2	-0.9	-0.06
BGUMEG		254.5	15.4	1.01	239.0	0.9	0.06
CCUF5D		231.3	-7.8	-0.51	229.9	-8.2	-0.54
CEJ94T		229.0	-10.1	-0.66	239.0	0.9	0.06
CG2X7N		247.5	8.4	0.55	237.5	-0.6	-0.04
EAVVGN	X	293.5	54.4	3.57	285.5	47.4	3.12
EKWKR2		232.0	-7.1	-0.47	230.0	-8.1	-0.53
EX8MSR		242.6	3.5	0.23	226.8	-11.3	-0.74
F66ZLJ	X	301.7	62.6	4.11	301.7	63.6	4.18
FATHDU		238.4	-0.7	-0.05	246.3	8.2	0.54
FFGBZU		243.5	4.4	0.29	234.0	-4.1	-0.27
FGY8WE		256.8	17.7	1.16	247.8	9.7	0.64
FK9FQE		240.0	0.9	0.06	242.5	4.4	0.29
FMJ8ZR		252.0	12.9	0.85	241.0	2.9	0.19
FSYQJB		241.5	2.4	0.16	238.5	0.4	0.03
GH512K		254.5	15.4	1.01	243.0	4.9	0.32
GXN38V		227.5	-11.6	-0.76	220.0	-18.1	-1.19
H3H474		253.8	14.7	0.97	245.1	7.0	0.46
HAC9YK		256.0	16.9	1.11	248.9	10.8	0.71
HSM7DF		227.0	-12.1	-0.79	230.5	-7.6	-0.50
HY115D		224.0	-15.1	-0.99	224.5	-13.6	-0.89
JCDWRE		234.8	-4.3	-0.29	226.0	-12.1	-0.80
JH6G1F		244.0	4.9	0.32	248.0	9.9	0.65
JW87YP		237.9	-1.2	-0.08	245.8	7.7	0.51
K9KZD6		236.5	-2.6	-0.17	229.5	-8.6	-0.57
KW5YRP	X	338.5	99.4	6.53	360.0	121.9	8.02
KXB7ZE		235.5	-3.6	-0.24	220.0	-18.1	-1.19
LLNQGE		221.0	-18.1	-1.19	217.0	-21.1	-1.39
LX7K4Z		232.8	-6.3	-0.41	242.2	4.1	0.27
M7JNQ6		252.0	12.9	0.85	243.0	4.9	0.32
M9B2E3		252.3	13.2	0.87	236.7	-1.4	-0.09
MBCRAX		264.0	24.9	1.64	250.0	11.9	0.78
MDZWLA		253.8	14.7	0.97	268.3	30.2	1.99

## Analysis 608

## Stress at 100% Elongation (psi)

WebCode	Data Flag	Sample A61-A62			Sample A63-A64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
MLUEX4		240.8	1.7	0.11	229.9	-8.2	-0.54
MN3LB5		232.8	-6.3	-0.41	215.4	-22.7	-1.49
MX9H9T		206.0	-33.1	-2.18	208.1	-30.0	-1.97
N7BS1W		217.8	-21.3	-1.40	232.5	-5.6	-0.37
NGSFUY		232.5	-6.6	-0.43	233.0	-5.1	-0.34
P198YL		232.0	-7.1	-0.47	236.5	-1.6	-0.11
PEY1VT		266.1	27.1	1.78	260.3	22.2	1.46
PJRUJ2		213.9	-25.2	-1.65	218.3	-19.8	-1.30
QH9WUH		235.0	-4.1	-0.27	235.0	-3.1	-0.20
QMP1RZ	*	264.3	25.2	1.66	275.2	37.1	2.44
QS3MU4		230.5	-8.6	-0.56	221.5	-16.6	-1.09
QXD1T9		228.0	-11.1	-0.73	224.5	-13.6	-0.89
RFR35M		217.3	-21.8	-1.43	217.5	-20.6	-1.35
RUDEGB		244.0	4.9	0.32	240.0	1.9	0.13
SD9YH2		239.5	0.4	0.03	245.5	7.4	0.49
SLEEKQ		229.9	-9.2	-0.60	233.5	-4.6	-0.30
SRZTR4		211.5	-27.6	-1.81	215.0	-23.1	-1.52
T5M71T		236.3	-2.8	-0.19	232.4	-5.7	-0.37
TKK5CU		242.5	3.4	0.22	245.5	7.4	0.49
TYC77D	X	657.0	417.9	27.45	733.5	495.4	32.58
U218ES		234.5	-4.6	-0.30	240.0	1.9	0.13
U2WGZP		236.0	-3.1	-0.20	244.5	6.4	0.42
UE91ZQ		229.9	-9.2	-0.60	242.2	4.1	0.27
ULPPHL		232.1	-7.0	-0.46	224.8	-13.3	-0.87
VF5PER		217.5	-21.6	-1.42	211.5	-26.6	-1.75
VU8ZX1		232.0	-7.1	-0.47	230.5	-7.6	-0.50
WRHF7M		248.5	9.4	0.62	247.5	9.4	0.62
WSEQ72		233.5	-5.6	-0.37	231.0	-7.1	-0.47
XLBE1G	*	280.0	40.9	2.69	285.0	46.9	3.08
Y4NK4K		232.5	-6.6	-0.43	245.5	7.4	0.49
YXXPS7		225.5	-13.6	-0.89	226.3	-11.8	-0.78
ZP4SRS		246.0	6.9	0.45	255.0	16.9	1.11

## Analysis 608

## Stress at 100% Elongation (psi)

## Summary Statistics

## Grand Means

239.09 psi

238.10 psi

## Std Dev Btwn Labs

15.23 psi

15.21 psi

Statistics based on 95 of 102 reporting participants

## Summary Statistics in SI Units

## Grand Means

1.6485 MPa

1.64 MPa

## Std Dev Btwn Labs

0.1050 MPa

0.10 MPa

Statistics based on 95 of 102 reporting participants

Samples A61-A62: Polyisoprene compound, batch #1 &amp; A63-A64: Polyisoprene compound, batch #2

**Comments on assigned Data Flags for Test #608**

1Z8EX3 (X) - Inconsistency in testing between Sample sets. Data for Sample set A61-A62 are high.

5PAME6 (X) - Data for all Samples are high.

9KA4UH (X) - Inconsistency in testing between Sample sets.

EAVVGN (X) - Data for all Samples are high.

F66ZLJ (X) - Data for all Samples are high.

KW5YRP (X) - Data for all Samples are high.

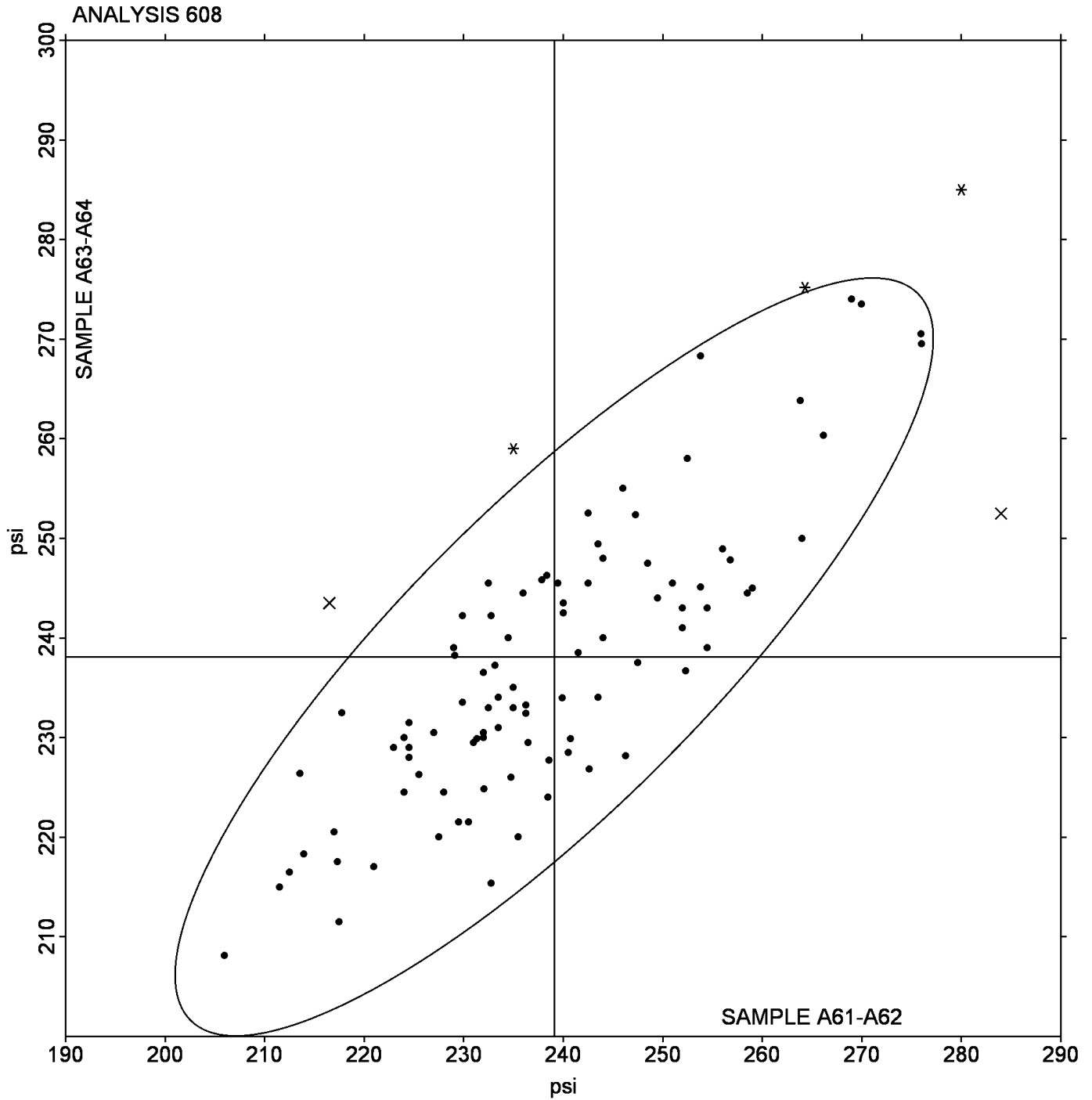
TYC77D (X) - Data for all Samples are high.

Analysis 608

Stress at 100% Elongation (psi)

Grand Mean Sample A61-A62 = 239.09 psi

Grand Mean Sample A63-A64 = 238.10 psi



## Rubber Interlaboratory Testing Program

## Analysis 620

## Hardness (Shore A/Type A)

WebCode	Data Flag	Sample A61-A62			Sample A63-A64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
15MY8F		50.95	-1.01	-0.62	51.65	-0.36	-0.22
1C427P		53.00	1.04	0.64	53.00	0.99	0.60
1XHS1N		54.50	2.54	1.56	54.00	1.99	1.21
1Z73Y8		55.00	3.04	1.86	54.50	2.49	1.51
23MZZ3		50.00	-1.96	-1.20	50.00	-2.01	-1.22
2KN88F		51.30	-0.66	-0.40	51.80	-0.21	-0.13
2NME9D		52.00	0.04	0.03	52.50	0.49	0.30
2WZEN8		50.50	-1.46	-0.89	50.50	-1.51	-0.91
2Z878Q		52.00	0.04	0.03	52.00	-0.01	0.00
32RBFC		51.00	-0.96	-0.59	51.50	-0.51	-0.31
3EBG4U		51.50	-0.46	-0.28	52.00	-0.01	0.00
447F64		51.50	-0.46	-0.28	51.50	-0.51	-0.31
5E5VHW		51.50	-0.46	-0.28	52.50	0.49	0.30
68YHBE		52.00	0.04	0.03	52.00	-0.01	0.00
6E42R4		51.80	-0.16	-0.10	51.70	-0.31	-0.19
6VY8U6	*	50.50	-1.46	-0.89	49.50	-2.51	-1.52
6Z5W57	*	54.00	2.04	1.25	53.00	0.99	0.60
715UNU		48.00	-3.96	-2.42	48.00	-4.01	-2.43
75LZ6F		51.50	-0.46	-0.28	52.00	-0.01	0.00
7N6C6G	*	55.55	3.59	2.20	54.85	2.84	1.72
7S572H		55.00	3.04	1.86	55.00	2.99	1.81
7ZMJ EJ		54.50	2.54	1.56	54.00	1.99	1.21
83MQC6		50.70	-1.26	-0.77	51.00	-1.01	-0.61
893RLU		52.00	0.04	0.03	52.00	-0.01	0.00
8CSZ2A		51.10	-0.86	-0.53	51.50	-0.51	-0.31
9343RV		50.65	-1.31	-0.80	50.95	-1.06	-0.64
9EMCLG		53.20	1.24	0.76	53.40	1.39	0.84
9ESL2S		55.00	3.04	1.86	55.00	2.99	1.81
9HRXTE		52.50	0.54	0.33	52.50	0.49	0.30
9X31BH	*	55.50	3.54	2.17	56.00	3.99	2.42
9XMBWQ		53.00	1.04	0.64	53.00	0.99	0.60
9YBS2R		53.00	1.04	0.64	53.00	0.99	0.60
A1NUQP		51.95	-0.01	0.00	51.85	-0.16	-0.10
A9MTRW		51.65	-0.31	-0.19	51.05	-0.96	-0.58
ADV72E		52.95	0.99	0.61	52.95	0.94	0.57

## Rubber Interlaboratory Testing Program

## Analysis 620

## Hardness (Shore A/Type A)

WebCode	Data Flag	Sample A61-A62			Sample A63-A64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
B4ANG8		52.50	0.54	0.33	52.50	0.49	0.30
BL4M8E		50.25	-1.71	-1.05	49.75	-2.26	-1.37
C2T9EC		51.80	-0.16	-0.10	52.00	-0.01	0.00
C44RJW		55.00	3.04	1.86	55.00	2.99	1.81
C4U4JG		51.00	-0.96	-0.59	50.50	-1.51	-0.91
C8V1PM		53.50	1.54	0.94	54.00	1.99	1.21
CSSX7P		53.00	1.04	0.64	53.00	0.99	0.60
DP9XS9		53.00	1.04	0.64	53.00	0.99	0.60
DQ7CAL		53.45	1.49	0.91	53.75	1.74	1.05
E141ZE	*	49.50	-2.46	-1.51	48.50	-3.51	-2.12
EESENV	X	51.50	-0.46	-0.28	53.00	0.99	0.60
EU8CUW		49.00	-2.96	-1.81	49.00	-3.01	-1.82
F38JMU	*	51.50	-0.46	-0.28	50.50	-1.51	-0.91
FURRUQ		52.50	0.54	0.33	53.00	0.99	0.60
G1F1ZF		50.00	-1.96	-1.20	49.50	-2.51	-1.52
G1QKF4		50.00	-1.96	-1.20	50.00	-2.01	-1.22
G25AS4		51.25	-0.71	-0.43	51.20	-0.81	-0.49
G63MX2		50.05	-1.91	-1.17	50.05	-1.96	-1.19
G8Z1MT		54.25	2.29	1.40	55.05	3.04	1.84
GW6MMW	*	55.80	3.84	2.35	55.40	3.39	2.05
HJSGV7		51.10	-0.86	-0.53	51.20	-0.81	-0.49
HUZMX9		51.80	-0.16	-0.10	51.80	-0.21	-0.13
JNQRRD	X	46.75	-5.21	-3.19	46.25	-5.76	-3.49
JU16YB		52.50	0.54	0.33	52.00	-0.01	0.00
KHKMUL		51.80	-0.16	-0.10	51.75	-0.26	-0.16
KJ5N9G		53.15	1.19	0.73	53.25	1.24	0.75
L2NXXZ		48.65	-3.31	-2.03	48.80	-3.21	-1.94
LZLX29	*	54.50	2.54	1.56	55.50	3.49	2.11
M29M98		50.00	-1.96	-1.20	50.50	-1.51	-0.91
M4RC76		51.85	-0.11	-0.07	51.65	-0.36	-0.22
M6769L		50.00	-1.96	-1.20	50.50	-1.51	-0.91
N6JA47		51.75	-0.21	-0.13	51.75	-0.26	-0.16
NDA7P7	X	59.00	7.04	4.31	58.50	6.49	3.93
NP2JQQ		52.00	0.04	0.03	52.00	-0.01	0.00
P2D5Q2		51.10	-0.86	-0.53	51.40	-0.61	-0.37

## Rubber Interlaboratory Testing Program

## Analysis 620

## Hardness (Shore A/Type A)

WebCode	Data Flag	Sample A61-A62			Sample A63-A64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
P5VSDQ		53.05	1.09	0.67	53.35	1.34	0.81
PND8PP		52.20	0.24	0.15	52.50	0.49	0.30
PQYRPV		52.35	0.39	0.24	51.80	-0.21	-0.13
Q4G9WV		52.70	0.74	0.45	52.55	0.54	0.33
QEMZ2S		52.00	0.04	0.03	52.00	-0.01	0.00
QHV328		53.00	1.04	0.64	53.00	0.99	0.60
QRJ3JS		53.50	1.54	0.94	53.00	0.99	0.60
QYGP HQ		53.00	1.04	0.64	53.00	0.99	0.60
R6UZ8W		52.50	0.54	0.33	53.00	0.99	0.60
RCZM92		51.85	-0.11	-0.07	51.75	-0.26	-0.16
RD3MMT		54.00	2.04	1.25	54.00	1.99	1.21
RGXZAX		52.00	0.04	0.03	52.00	-0.01	0.00
S8SW2X		51.20	-0.76	-0.46	50.85	-1.16	-0.70
SBWZY7		51.00	-0.96	-0.59	51.00	-1.01	-0.61
T5BMVJ		53.00	1.04	0.64	54.00	1.99	1.21
TMMJRC		50.00	-1.96	-1.20	50.00	-2.01	-1.22
TQ6TKA	X	52.00	0.04	0.03	50.30	-1.71	-1.03
UGFEH5		55.00	3.04	1.86	55.00	2.99	1.81
UJ4WKA		49.75	-2.21	-1.35	50.25	-1.76	-1.06
UUNFM1		51.50	-0.46	-0.28	52.00	-0.01	0.00
UV3LXQ		51.00	-0.96	-0.59	51.50	-0.51	-0.31
V1N487		51.05	-0.91	-0.56	51.05	-0.96	-0.58
V2M5HJ		51.90	-0.06	-0.04	52.05	0.04	0.03
V8EMKV		54.00	2.04	1.25	54.00	1.99	1.21
VGX835		48.50	-3.46	-2.12	49.00	-3.01	-1.82
VUNHMA		53.00	1.04	0.64	53.00	0.99	0.60
WPH9N2		52.25	0.29	0.18	52.20	0.19	0.12
WTFYWM		51.50	-0.46	-0.28	51.50	-0.51	-0.31
XAQX2V		49.50	-2.46	-1.51	50.00	-2.01	-1.22
XWRXAU		50.35	-1.61	-0.98	51.40	-0.61	-0.37
XX2VLP		51.00	-0.96	-0.59	51.50	-0.51	-0.31
YJK5R9		50.50	-1.46	-0.89	50.00	-2.01	-1.22
YJKYJ1		50.55	-1.41	-0.86	49.95	-2.06	-1.25
YLERNH		52.00	0.04	0.03	52.30	0.29	0.18
YR84M6		50.25	-1.71	-1.05	49.95	-2.06	-1.25

## Analysis 620

## Hardness (Shore A/Type A)

WebCode	Data Flag	Sample A61-A62			Sample A63-A64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
Z4P3QW		51.35	-0.61	-0.37	51.75	-0.26	-0.16
ZC6S53		51.00	-0.96	-0.59	51.10	-0.91	-0.55

## Summary Statistics

## Grand Means

51.958 Type A

52.008 Type A

## Std Dev Btwn Labs

1.633 Type A

1.652 Type A

Statistics based on 103 of 107 reporting participants

Samples A61-A62: Polyisoprene compound, batch #1 & A63-A64: Polyisoprene compound, batch #2

**Comments on assigned Data Flags for Test #620**

EESENV (X) - Inconsistency in testing between Sample sets.

JNQRRD (X) - Data for all Samples are low. Possible Systematic Error.

NDA7P7 (X) - Data for all Samples are high. Possible Systematic Error.

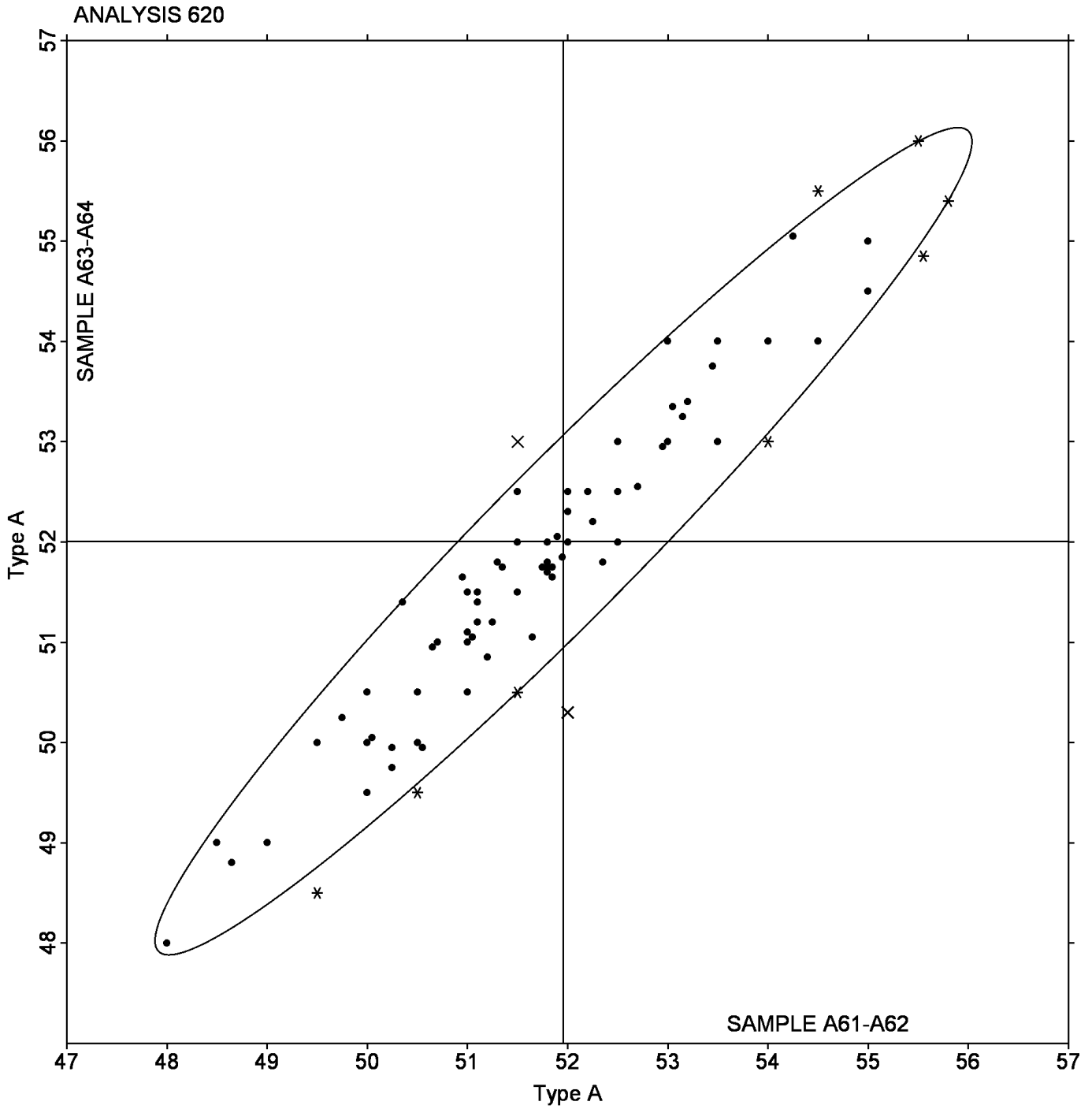
TQ6TKA (X) - Inconsistency in testing between Sample sets.

Analysis 620

Hardness (Shore A/Type A)

Grand Mean Sample A61-A62 = 51.958 Type A

Grand Mean Sample A63-A64 = 52.008 Type A



## Analysis 630

## Tensile Strength: Precured vs. Lab-Cured Samples (psi)

WebCode	Data Flag	Sample A61-A62			Sample J61-J62		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
1P8GW1		3,497.6	109.6	0.67	3,122.0	-47.6	-0.33
1WGY2G		3,460.0	72.0	0.44	2,955.0	-214.6	-1.47
286PDY		3,399.7	11.7	0.07	3,214.1	44.5	0.30
2MA5EL		3,601.3	213.3	1.31	3,222.8	53.2	0.36
3CV9CT		3,511.0	123.0	0.76	3,194.0	24.4	0.17
3DU9QM	*	3,580.5	192.5	1.18	2,944.5	-225.1	-1.54
4MS8A5	X	4,234.0	846.0	5.20	3,349.0	179.4	1.23
5X4YA1		3,368.5	-19.5	-0.12	3,262.4	92.8	0.63
7JL9SA		3,687.5	299.5	1.84	3,481.5	311.9	2.13
9Y6L8V		3,562.5	174.4	1.07	3,123.1	-46.5	-0.32
A984SQ		3,620.3	232.3	1.43	3,343.5	173.9	1.19
BL1GJZ		3,408.5	20.5	0.13	3,386.0	216.4	1.48
BLB2P9		3,396.1	8.1	0.05	3,095.9	-73.7	-0.50
C2WJDY		3,260.5	-127.5	-0.78	3,008.5	-161.1	-1.10
C4NKGB		3,252.0	-136.1	-0.84	3,040.4	-129.2	-0.88
CTKCFU		3,535.2	147.2	0.90	3,286.3	116.7	0.80
DFNPRK		3,519.4	131.3	0.81	3,277.5	107.9	0.74
ED8SLT		3,636.0	248.0	1.52	3,335.0	165.4	1.13
F7ZBDH		3,189.5	-198.5	-1.22	3,144.0	-25.6	-0.18
FJNKRE		3,393.9	5.9	0.04	3,176.4	6.8	0.05
KD18V8		3,515.5	127.5	0.78	3,319.0	149.4	1.02
LCTKND	*	3,110.5	-277.5	-1.71	3,305.0	135.4	0.93
LR78A3		3,312.0	-76.0	-0.47	3,030.5	-139.1	-0.95
M4NCWD	X	3,506.0	118.0	0.72	2,716.0	-453.6	-3.10
MVVY2R		3,320.2	-67.8	-0.42	3,008.6	-161.0	-1.10
MW66V1		3,483.4	95.4	0.59	3,337.7	168.1	1.15
NYEYMZ		3,344.5	-43.5	-0.27	3,288.0	118.4	0.81
P9FR2G		3,440.0	52.0	0.32	3,187.5	17.9	0.12
PCFEDS		3,451.0	63.0	0.39	3,107.5	-62.1	-0.42
Q152BJ		3,534.5	146.5	0.90	3,379.0	209.4	1.43
QG5P5J		3,221.6	-166.4	-1.02	2,953.1	-216.5	-1.48
QH9J4L		3,042.0	-346.0	-2.13	2,883.0	-286.6	-1.96
RUJ2A3		3,019.0	-369.0	-2.27	2,947.5	-222.1	-1.52
SBY3UP		3,280.0	-108.0	-0.66	3,269.5	99.9	0.68
T4PUJW		3,190.9	-197.2	-1.21	3,125.6	-44.0	-0.30

## Analysis 630

## Tensile Strength: Precured vs. Lab-Cured Samples (psi)

WebCode	Data Flag	Sample A61-A62			Sample J61-J62		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
T5V9LF		3,352.5	-35.5	-0.22	3,173.0	3.4	0.02
TX7TJS		3,354.8	-33.3	-0.20	3,080.6	-89.0	-0.61
U5MYRH		3,499.5	111.5	0.68	3,245.0	75.4	0.52
VXVK2F		3,230.5	-157.5	-0.97	3,017.0	-152.6	-1.04
X38B2T		3,273.0	-115.0	-0.71	3,076.0	-93.6	-0.64
XMQCGZ		3,277.5	-110.5	-0.68	3,268.5	98.9	0.68

## Summary Statistics

## Grand Means

3,388.02 psi

3,169.60 psi

## Std Dev Btwn Labs

162.75 psi

146.26 psi

Statistics based on 39 of 41 reporting participants

## Summary Statistics in SI Units

## Grand Means

23.359 MPa

21.85 MPa

## Std Dev Btwn Labs

1.122 MPa

1.01 MPa

Statistics based on 39 of 41 reporting participants

All samples : Polyisoprene compound, batch #1

Comments on assigned Data Flags for Test #630

4MS8A5 (X) - Inconsistency in testing between Sample sets. Data for Sample set A61-A62 are high.

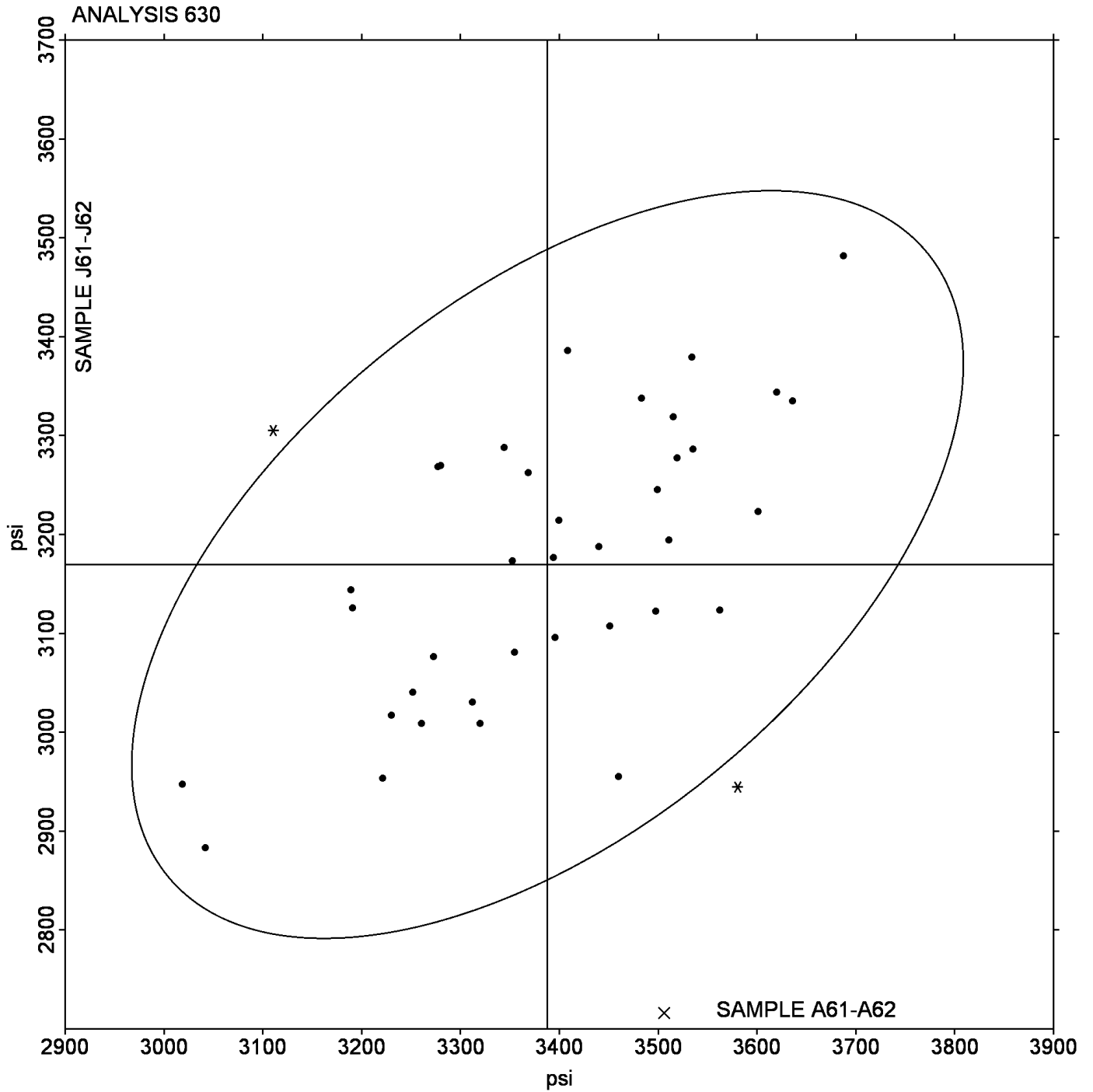
M4NCWD (X) - Inconsistency in testing between Sample sets. Data for Sample set J61-J62 are low.

Analysis 630

Tensile Strength: Precured vs. Lab-Cured Samples (psi)

Grand Mean Sample A61-A62 = 3,388.02 psi

Grand Mean Sample J61-J62 = 3,169.60 psi



## Analysis 631

## Ultimate Elongation: Precured vs. Lab-Cured Samples (percent)

WebCode	Data Flag	Sample A61-A62			Sample J61-J62		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
14C127		605.0	20.9	0.78	592.0	16.3	0.57
2E7NGF		590.5	6.4	0.24	582.5	6.8	0.24
2U2SRQ	X	561.5	-22.6	-0.84	485.5	-90.2	-3.17
2UHV8		564.5	-19.6	-0.73	553.0	-22.7	-0.80
39Q883	*	654.8	70.6	2.63	642.3	66.6	2.34
411B66		595.5	11.4	0.42	586.0	10.3	0.36
6G5TFQ		535.0	-49.1	-1.83	547.0	-28.7	-1.01
6U497T		618.5	34.4	1.28	581.0	5.3	0.19
88FP48		561.0	-23.1	-0.86	547.5	-28.2	-0.99
972VYY		598.0	13.9	0.52	593.0	17.3	0.61
9ULSW2		567.0	-17.1	-0.64	589.5	13.8	0.49
AHG61N		607.5	23.4	0.87	589.0	13.3	0.47
AZ5X1W		602.5	18.4	0.68	568.5	-7.2	-0.25
B7TRHC		591.1	6.9	0.26	599.7	24.0	0.84
BF6KWU		575.0	-9.1	-0.34	565.0	-10.7	-0.37
BGHZY4		597.0	12.9	0.48	574.5	-1.2	-0.04
BRJJ8W		620.0	35.9	1.34	612.0	36.3	1.28
CHGPBK		571.0	-13.1	-0.49	570.5	-5.2	-0.18
CKR4V4		567.5	-16.6	-0.62	553.0	-22.7	-0.80
E8S7X9		582.0	-2.1	-0.08	573.0	-2.7	-0.09
FYMVN4		538.1	-46.0	-1.71	546.7	-29.0	-1.02
HK858E	*	538.3	-45.8	-1.71	501.6	-74.1	-2.60
JZ79NQ		606.8	22.7	0.84	602.9	27.2	0.96
K4NE75		556.5	-27.6	-1.03	555.0	-20.7	-0.73
KX1NM5		571.0	-13.1	-0.49	550.0	-25.7	-0.90
L37MP8		615.0	30.9	1.15	621.5	45.8	1.61
L5ZSQE		615.5	31.4	1.17	598.5	22.8	0.80
LYKLZT		579.6	-4.5	-0.17	587.2	11.5	0.41
M7EGWP		590.0	5.9	0.22	590.0	14.3	0.50
M7PZGT		566.5	-17.6	-0.66	571.0	-4.7	-0.16
MULHVE		589.5	5.4	0.20	578.0	2.3	0.08
NCLW1W	X	721.0	136.9	5.10	597.0	21.3	0.75
NGDM62		551.0	-33.1	-1.23	545.0	-30.7	-1.08
Q2S3BY		629.6	45.4	1.69	618.6	42.9	1.51
R56FQ1		569.0	-15.1	-0.56	540.0	-35.7	-1.25

## Rubber Interlaboratory Testing Program Analysis 631

### Ultimate Elongation: Precured vs. Lab-Cured Samples (percent)

WebCode	Data Flag	Sample A61-A62			Sample J61-J62		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
RCFUJQ	*	581.0	-3.1	-0.12	522.5	-53.2	-1.87
RMUKF3		582.6	-1.5	-0.06	603.8	28.1	0.99
S5YTG6		581.5	-2.6	-0.10	596.5	20.8	0.73
T8JUGA		567.5	-16.6	-0.62	580.5	4.8	0.17
UG755C		542.5	-41.6	-1.55	541.0	-34.7	-1.22
VQ111T		606.2	22.0	0.82	581.4	5.7	0.20

#### Summary Statistics

**Grand Means**

584.13 percent

575.66 percent

**Std Dev Btwn Labs**

26.86 percent

28.47 percent

Statistics based on 39 of 41 reporting participants

All samples : Polyisoprene compound, batch #1

#### Comments on assigned Data Flags for Test #631

2U2SRQ (X) - Inconsistency in testing between Sample sets. Data for Sample set J61-J62 are low. Also inconsistent in testing within the determinations for Sample set J61-J62.

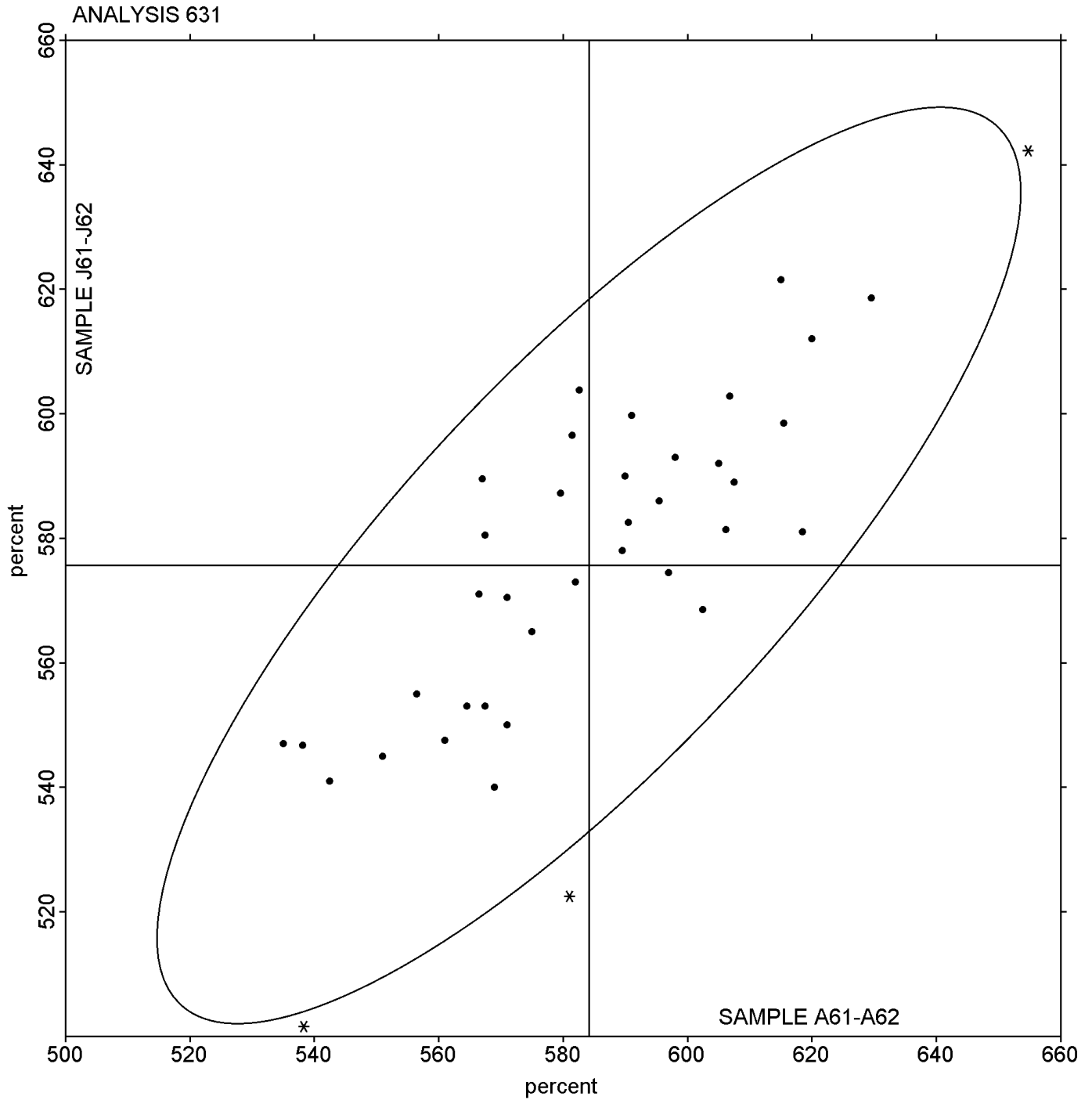
NCLW1W (X) - Inconsistency in testing between Sample sets. Data for Sample set A61-A62 are high.

Analysis 631

Ultimate Elongation: Precured vs. Lab-Cured Samples (percent)

Grand Mean Sample A61-A62 = 584.13 percent

Grand Mean Sample J61-J62 = 575.66 percent



## Analysis 632

## Stress at 300% Elongation: Precured vs. Lab-Cured Samples (psi)

WebCode	Data Flag	Sample A61-A62			Sample J61-J62		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
1KSQBL		1,156.0	40.1	0.47	1,046.5	-4.2	-0.04
2N7Z3A		1,108.0	-7.8	-0.09	1,065.0	14.3	0.12
58MBS4	X	1,474.0	358.2	4.15	1,150.5	99.8	0.85
5LN8CR		1,264.8	148.9	1.73	1,350.5	299.8	2.54
6W9KK3		1,118.0	2.2	0.03	1,075.5	24.8	0.21
7597MZ		1,211.5	95.7	1.11	1,136.0	85.3	0.72
78BBPU		1,188.0	72.2	0.84	1,192.5	141.8	1.20
7KNM1B		1,092.0	-23.8	-0.28	1,038.5	-12.2	-0.10
7XAZ41		1,130.5	14.7	0.17	1,065.5	14.8	0.13
81M9NG		1,188.0	72.2	0.84	1,073.0	22.3	0.19
8DETB6		1,135.0	19.2	0.22	1,068.0	17.3	0.15
8VSYJA		1,111.5	-4.3	-0.05	1,018.0	-32.7	-0.28
9D5AR2		1,132.5	16.7	0.19	1,059.5	8.8	0.07
AGVWB3		1,084.3	-31.6	-0.37	1,026.7	-24.0	-0.20
B256CB		1,035.5	-80.3	-0.93	926.4	-124.3	-1.05
BFZWBN		1,285.8	169.9	1.97	1,166.8	116.2	0.99
DLFWCE		1,073.3	-42.6	-0.49	899.2	-151.4	-1.28
E1AGM1		1,237.4	121.6	1.41	1,145.0	94.3	0.80
E1KUFV		945.0	-170.8	-1.98	849.0	-201.7	-1.71
FR4KAN	*	1,129.0	13.2	0.15	827.0	-223.7	-1.90
GJHQBQ		1,181.1	65.3	0.76	1,055.7	5.0	0.04
GQT4N2		1,027.0	-88.8	-1.03	914.5	-136.2	-1.15
HH8VNP		984.0	-131.8	-1.53	975.5	-75.2	-0.64
J3GZMK		982.6	-133.2	-1.55	1,029.8	-20.9	-0.18
L5XT3C		1,127.5	11.7	0.14	1,148.5	97.8	0.83
LK6ATH		1,155.0	39.2	0.45	1,070.0	19.3	0.16
LM2T8Q		1,148.9	33.0	0.38	960.7	-89.9	-0.76
Q9XGWG		1,060.5	-55.3	-0.64	1,145.5	94.8	0.80
SW4R4P		1,270.0	154.2	1.79	1,255.0	204.3	1.73
SWUPQV		1,055.9	-60.0	-0.70	1,133.5	82.8	0.70
TPZ4UZ	*	1,090.5	-25.3	-0.29	801.0	-249.7	-2.12
U75A1T		1,082.8	-33.0	-0.38	933.2	-117.5	-1.00
UHP3VE		946.9	-169.0	-1.96	836.1	-214.6	-1.82
W44PVN		1,244.4	128.6	1.49	1,198.0	147.3	1.25
W8J9Y1		1,044.5	-71.3	-0.83	1,080.5	29.8	0.25

## Rubber Interlaboratory Testing Program Analysis 632

### Stress at 300% Elongation: Precured vs. Lab-Cured Samples (psi)

WebCode	Data Flag	Sample A61-A62			Sample J61-J62		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
XJFXNU		993.0	-122.8	-1.42	1,006.0	-44.7	-0.38
YF4BVF		1,093.5	-22.3	-0.26	1,020.0	-30.7	-0.26
YGL5WQ		1,037.5	-78.3	-0.91	1,032.5	-18.2	-0.15
YLK1QX		1,158.1	42.2	0.49	1,126.9	76.2	0.65
ZDNQR1		1,198.0	82.2	0.95	1,152.0	101.3	0.86
ZUUXJN		1,126.0	10.2	0.12	1,123.5	72.8	0.62

#### Summary Statistics

**Grand Means**

1,115.84 psi

1,050.67 psi

**Std Dev Btwn Labs**

86.21 psi

117.91 psi

Statistics based on 40 of 41 reporting participants

#### Summary Statistics in SI Units

**Grand Means**

7.6934 MPa

7.24 MPa

**Std Dev Btwn Labs**

0.5944 MPa

0.81 MPa

Statistics based on 40 of 41 reporting participants

All samples : Polyisoprene compound, batch #1

#### Comments on assigned Data Flags for Test #632

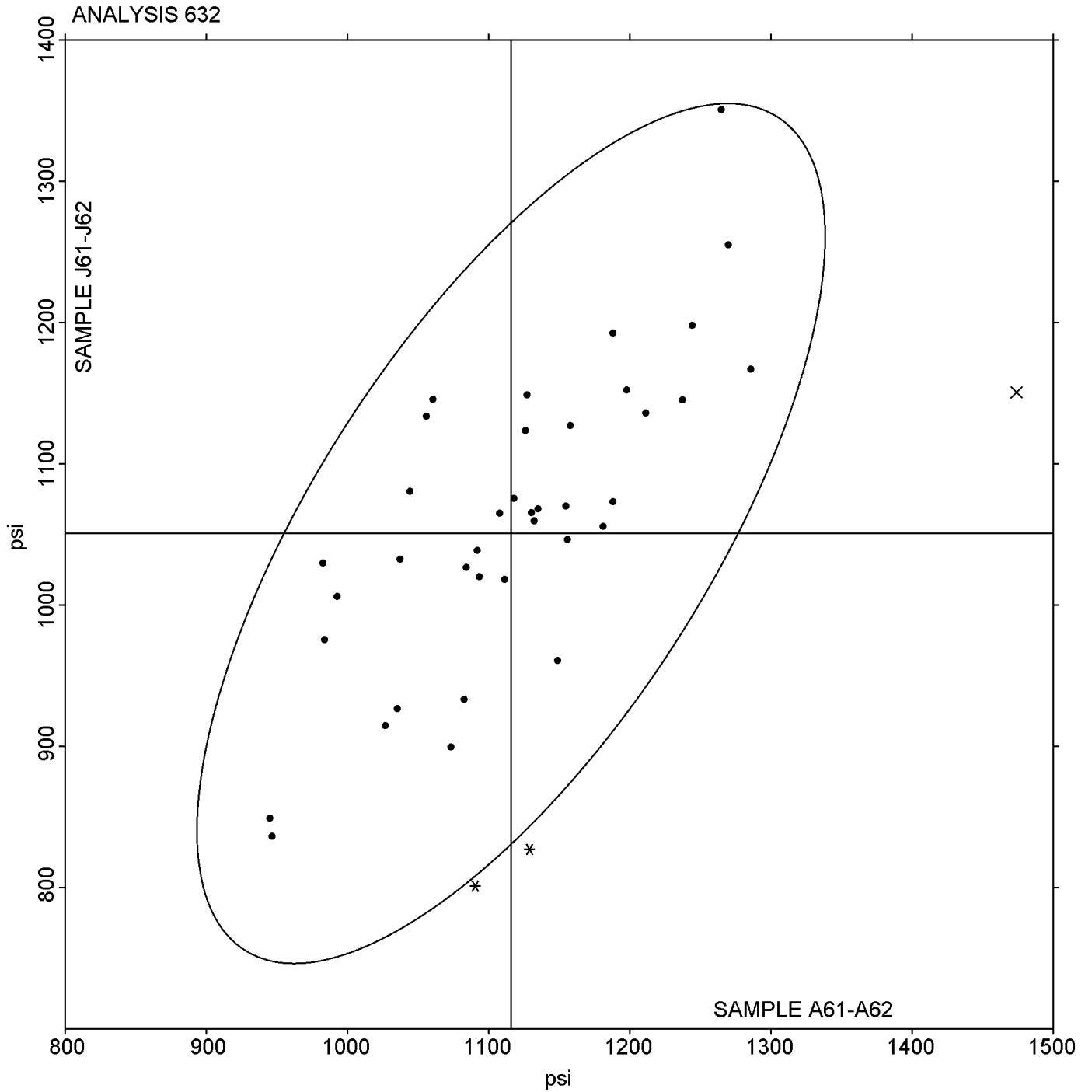
58MBS4 (X) - Inconsistency in testing between Sample sets. Data for Sample set A61-A62 are high.

Analysis 632

Stress at 300% Elongation: Precured vs. Lab-Cured Samples (psi)

Grand Mean Sample A61-A62 = 1,115.84 psi

Grand Mean Sample J61-J62 = 1,050.67 psi



## Analysis 633

## Stress at 100% Elongation: Precured vs. Lab-Cured Samples (psi)

WebCode	Data Flag	Sample A61-A62			Sample J61-J62		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
16SH1Y	X	301.7	62.0	3.99	274.1	42.3	1.77
27QNV4		217.0	-22.7	-1.46	219.5	-12.3	-0.51
32QYPK		229.9	-9.8	-0.63	230.6	-1.2	-0.05
3B8H2P		231.3	-8.3	-0.54	206.7	-25.1	-1.05
3Z69VD		264.0	24.3	1.56	291.5	59.7	2.50
5JGNQR		264.3	24.6	1.58	284.4	52.6	2.20
63E53C		244.0	4.3	0.28	224.5	-7.3	-0.30
74KEAV		224.5	-15.2	-0.98	178.0	-53.8	-2.25
7V6F6S		241.5	1.8	0.12	246.0	14.2	0.60
7W7K71		224.0	-15.7	-1.01	228.0	-3.8	-0.16
AQWFAB		248.5	8.8	0.57	234.5	2.7	0.11
B7HN7Z		239.9	0.2	0.01	210.2	-21.6	-0.90
CGF9UJ		221.0	-18.7	-1.20	244.5	12.7	0.53
DTV5JN		213.9	-25.8	-1.66	230.6	-1.2	-0.05
FBGH7B		223.0	-16.7	-1.07	223.0	-8.8	-0.37
FEDVAW		229.5	-10.2	-0.66	218.0	-13.8	-0.58
GERMX7		246.3	6.6	0.43	215.5	-16.3	-0.68
GK3H3S		212.5	-27.2	-1.75	199.5	-32.3	-1.35
GLGZ52		253.8	14.1	0.91	262.5	30.7	1.29
H6MF4N		270.0	30.3	1.95	249.5	17.7	0.74
HA1J3M		252.0	12.3	0.79	231.0	-0.8	-0.03
HCU55P		238.4	-1.3	-0.09	228.1	-3.7	-0.16
HP9JH5		240.8	1.1	0.07	224.1	-7.7	-0.32
K3EE3W		243.5	3.8	0.25	243.5	11.7	0.49
KNJ1UG		276.0	36.3	2.34	267.5	35.7	1.49
LY98XB		240.0	0.3	0.02	248.5	16.7	0.70
M8WA8K		247.5	7.8	0.50	248.0	16.2	0.68
MEHRNG		235.0	-4.7	-0.30	235.0	3.2	0.13
NN7C8R		252.0	12.3	0.79	238.0	6.2	0.26
PSVXEY		229.1	-10.6	-0.68	206.7	-25.1	-1.05
Q4K8AH		236.3	-3.4	-0.22	203.6	-28.1	-1.18
QH4WCH		249.5	9.8	0.63	241.0	9.2	0.39
QN615M		233.2	-6.5	-0.42	226.2	-5.6	-0.23
R39WRF		232.0	-7.7	-0.49	255.5	23.7	0.99
SLDPHM		263.8	24.2	1.55	240.4	8.6	0.36

**Rubber Interlaboratory Testing Program  
Analysis 633**

**Stress at 100% Elongation: Precured vs. Lab-Cured Samples (psi)**

WebCode	Data Flag	Sample A61-A62			Sample J61-J62		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
TFAWC3		252.3	12.6	0.81	245.3	13.5	0.57
VJSDRG		235.0	-4.7	-0.30	243.0	11.2	0.47
X8NY49	X	494.5	254.8	16.40	419.5	187.7	7.85
XUAWUL		216.5	-23.2	-1.49	207.0	-24.8	-1.04
Y3468B		244.0	4.3	0.28	231.0	-0.8	-0.03
YN9ULT		232.0	-7.7	-0.49	179.0	-52.8	-2.21

Summary Statistics			
<b>Grand Means</b>	239.69	psi	231.77
			psi
<b>Std Dev Btwn Labs</b>	15.54	psi	23.90
			psi
Statistics based on 39 of 41 reporting participants			

Summary Statistics in SI Units			
<b>Grand Means</b>	1.6526	MPa	1.60
			MPa
<b>Std Dev Btwn Labs</b>	0.1071	MPa	0.16
			MPa
Statistics based on 39 of 41 reporting participants			

All samples : Polyisoprene compound, batch #1

**Comments on assigned Data Flags for Test #633**

16SH1Y (X) - Data for samples A61-A62 are high.

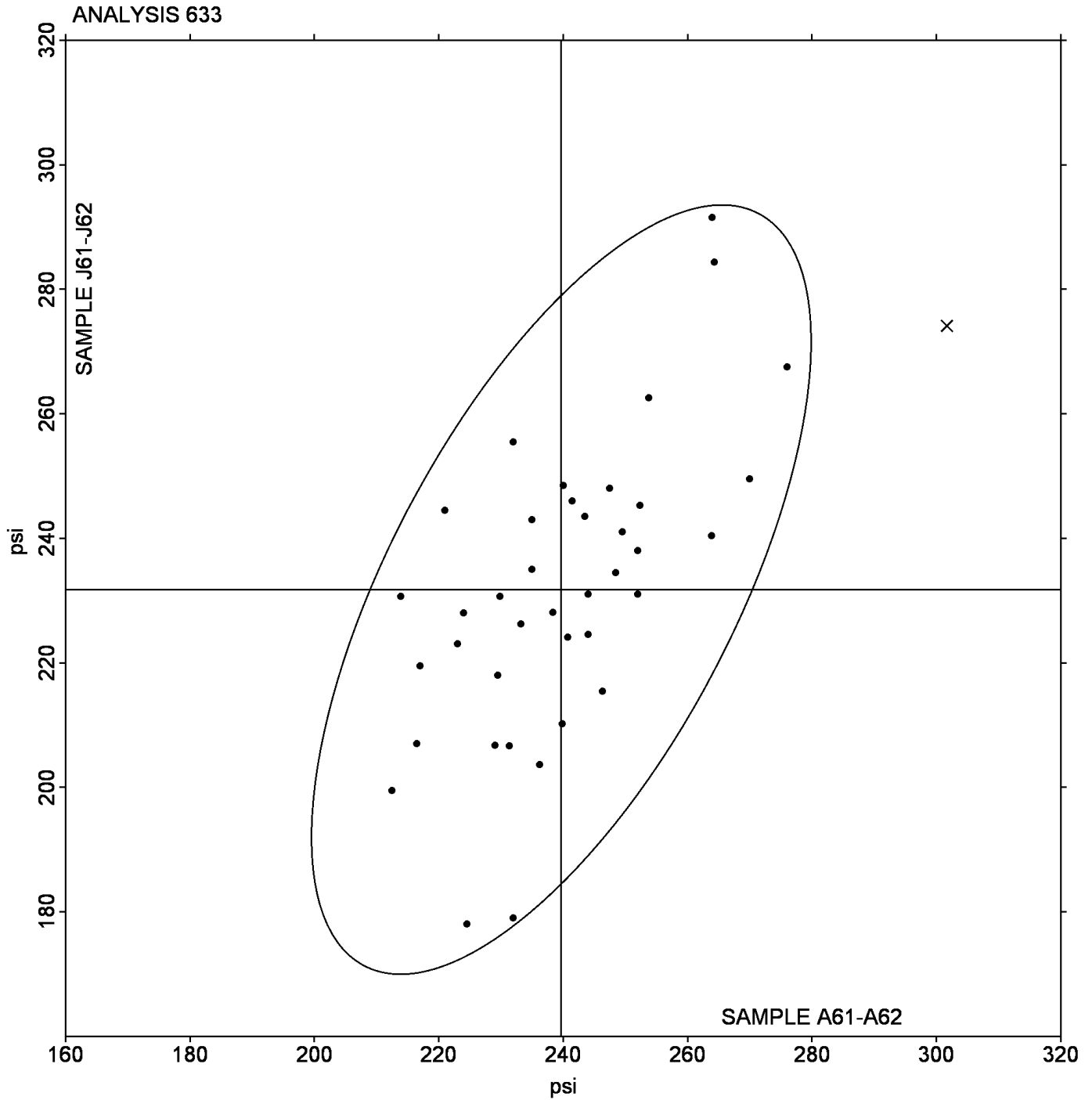
X8NY49 (X) - Data for all Samples are high.

Analysis 633

Stress at 100% Elongation: Precured vs. Lab-Cured Samples (psi)

Grand Mean Sample A61-A62 = 239.69 psi

Grand Mean Sample J61-J62 = 231.77 psi



## Rubber Interlaboratory Testing Program

## Analysis 660

## Mooney Viscosity: 4-minute readings (ML 1 + 4)

WebCode	Data Flag	Sample S61-S62			Sample S63-S64			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
1QCTZQ		45.68	0.07	0.07	48.53	-0.08	-0.07	MR
23VGAU		45.28	-0.33	-0.34	48.70	0.09	0.09	MR
3U1NT3		43.75	-1.87	-1.92	47.11	-1.50	-1.44	TV
48VJL6		45.13	-0.48	-0.50	48.68	0.07	0.07	MR
67HCUP		45.20	-0.42	-0.43	48.23	-0.38	-0.36	MR
6G58XB		44.90	-0.72	-0.74	48.20	-0.41	-0.39	MR
6Z31NW		46.66	1.04	1.07	49.24	0.63	0.61	TV
7PFVAY		47.81	2.19	2.26	51.17	2.56	2.46	XX
7PPFS		45.25	-0.37	-0.38	47.95	-0.66	-0.63	MR
8LWR7D		45.70	0.08	0.09	48.45	-0.16	-0.15	MM
8XGWK9		45.32	-0.30	-0.31	48.27	-0.34	-0.33	MM
96H74W		47.47	1.85	1.91	49.95	1.34	1.28	MM
BKLGPK		45.10	-0.51	-0.53	48.51	-0.10	-0.10	MR
DDLJRD		45.38	-0.23	-0.24	47.72	-0.89	-0.86	MR
H74T6M	*	47.55	1.94	2.00	51.50	2.89	2.77	MP
HL5H48		45.87	0.25	0.26	48.95	0.34	0.33	MR
HWQBMP		46.82	1.20	1.24	49.60	0.99	0.95	MR
HYSDZR		44.00	-1.62	-1.66	47.47	-1.14	-1.10	MR
J3TXG3		44.62	-1.00	-1.03	47.98	-0.63	-0.60	MR
JDAGYD		45.15	-0.47	-0.48	47.87	-0.74	-0.71	MR
JG6MTZ		44.98	-0.63	-0.65	46.90	-1.71	-1.64	MR
JPATXN		46.40	0.78	0.81	49.05	0.44	0.42	MR
JVZAHW		46.90	1.28	1.32	50.48	1.87	1.80	MM
LFV3N7		46.10	0.48	0.50	49.18	0.57	0.55	MR
LG9XG7		45.37	-0.25	-0.26	48.23	-0.38	-0.36	MR
LT1TCC		47.42	1.80	1.85	49.53	0.92	0.88	MM
MRXNWJ	X	47.28	1.67	1.72	48.03	-0.58	-0.55	MR
N3AQTB		44.13	-1.48	-1.53	48.03	-0.58	-0.55	MR
QDH9DM		45.55	-0.07	-0.07	49.94	1.33	1.27	MR
SS7HVD		44.22	-1.40	-1.44	47.15	-1.46	-1.40	MR
T7NGMK		45.25	-0.37	-0.38	48.00	-0.61	-0.59	MR
TUQPG1		45.27	-0.35	-0.36	47.88	-0.73	-0.70	TV
V3LUFM		44.85	-0.77	-0.79	48.62	0.01	0.01	MR
VBCCS7		45.85	0.23	0.24	49.07	0.46	0.44	MR
W23KHS		46.08	0.47	0.48	48.83	0.22	0.21	MR

## Analysis 660

## Mooney Viscosity: 4-minute readings (ML 1 + 4)

WebCode	Data Flag	Sample S61-S62			Sample S63-S64			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
W49SXE		45.83	0.22	0.22	49.23	0.62	0.60	MR
WN7MX1		45.43	-0.18	-0.19	47.67	-0.94	-0.90	MR
WRHEB2		44.83	-0.79	-0.81	46.87	-1.74	-1.67	TV
X4T1RT		44.90	-0.72	-0.74	47.75	-0.86	-0.83	MR
YWFL3A		46.62	1.00	1.03	48.85	0.24	0.23	MZ
Z5ZVRQ		46.30	0.68	0.70	48.35	-0.26	-0.25	MR
ZSBTAJ		45.33	-0.28	-0.29	49.35	0.74	0.71	TV

## Summary Statistics

## Grand Means

45.616 ML 1 + 4

48.611 ML 1 + 4

## Std Dev Btwn Labs

0.971 ML 1 + 4

1.042 ML 1 + 4

Statistics based on 41 of 42 reporting participants

Samples S61-S62: butyl &amp; S63-S64: SBR

Comments on assigned Data Flags for Test #660

MRXNWJ (X) - Inconsistency in testing between Sample sets.

Instrument Code Listing

660 Mooney Viscosity: 4-minute readings (ML 1 + 4)

Instruments (as reported by the labs):

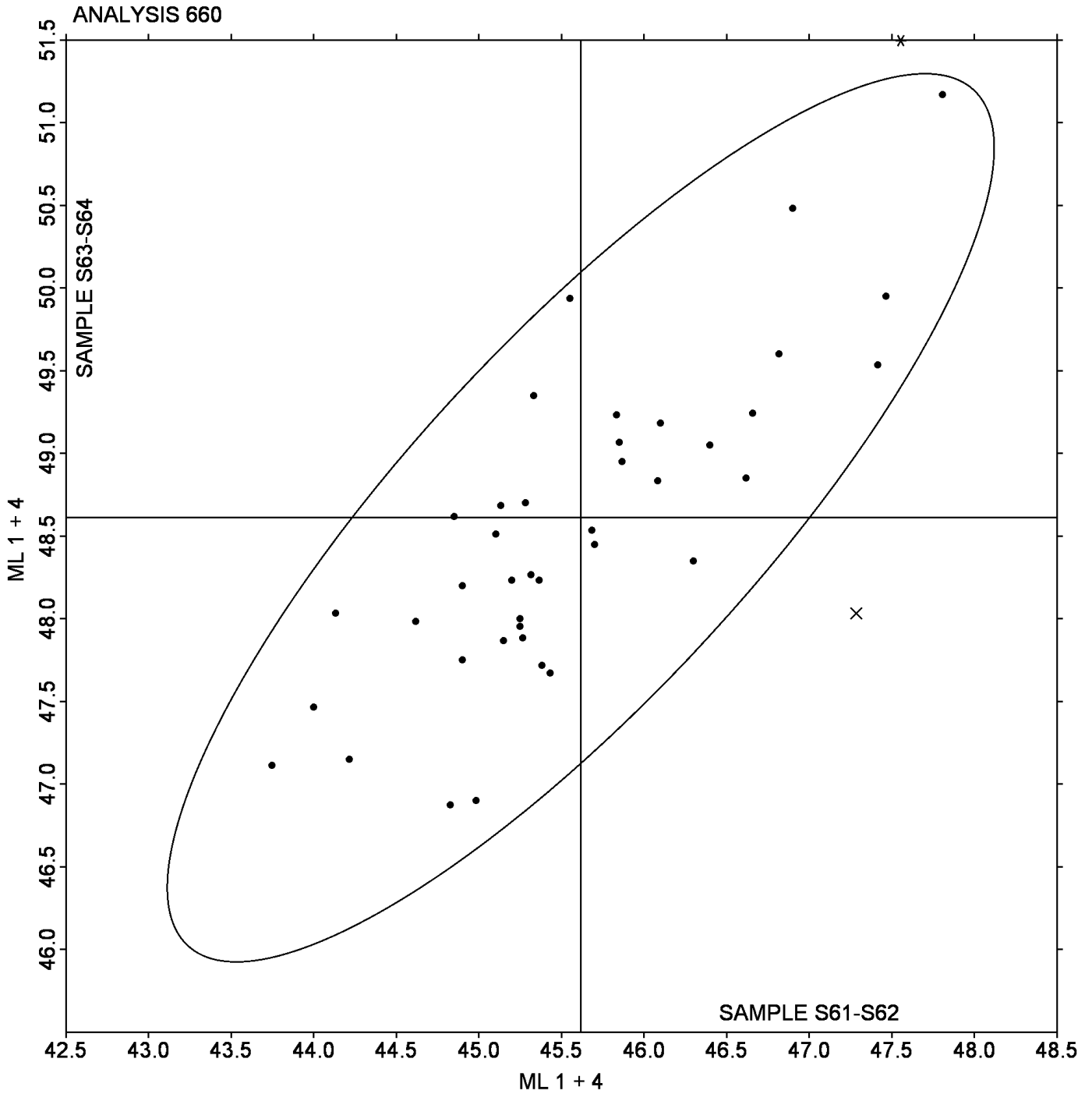
- |  |  |
|--|--|
| (ML) Alpha Technologies/Monsanto model not specified | (MM) Alpha Technologies Model 1xxx or OSM    |
| (MP) Monsanto Compact Mooney Viscometer              | (MR) Alpha Technologies Model MV2000/MV2000E |
| (MZ) Rebuilt Monsanto Mooney Viscometer              | (SF) Scott STI (any model)                   |
| (TV) Tech Pro Visc Tech (any model)                  | (XA) Special In-House Instrument             |
| (XX) Instrument make/model not specified by lab      |  |

Analysis 660

Mooney Viscosity: 4-minute readings (ML 1 + 4)

Grand Mean Sample S61-S62 = 45.616 ML 1 + 4

Grand Mean Sample S63-S64 = 48.611 ML 1 + 4



## Analysis 661

## Mooney Viscosity: 4-min NBR/SBR &amp; 8-min butyl readings (ML)

WebCode	Data Flag	Sample S61-S62			Sample S63-S64			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
11KSB4		44.22	-1.42	-1.51	42.75	-1.67	-1.80	MR
2PG4F1		47.55	1.91	2.02	46.54	2.12	2.28	ML
3SQRH6		45.83	0.19	0.20	45.43	1.01	1.09	MR
53LMEA	*	46.90	1.26	1.33	47.05	2.63	2.83	MM
5EU9GF		47.42	1.78	1.88	44.35	-0.07	-0.07	MM
5XXFZW	X	46.66	1.02	1.08	49.73	5.31	5.71	TV
77JCHU		45.85	0.21	0.22	44.87	0.45	0.48	MR
82C1KL		45.15	-0.49	-0.52	43.58	-0.84	-0.90	MR
8RW9WB		44.62	-1.02	-1.08	43.98	-0.44	-0.47	MR
A15Y1M		44.13	-1.51	-1.59	44.20	-0.22	-0.24	MR
ADQ9LS		44.83	-0.81	-0.86	42.67	-1.75	-1.88	TV
BU3TDX		45.25	-0.39	-0.41	43.95	-0.47	-0.51	MR
BZE79V		46.82	1.18	1.24	45.15	0.73	0.79	MR
FU5C72		45.33	-0.31	-0.32	45.10	0.68	0.73	TV
G1E1VS		45.13	-0.51	-0.54	44.57	0.15	0.16	MR
GYBMN9		45.68	0.04	0.05	44.35	-0.07	-0.07	MR
HVAZP4		45.70	0.06	0.06	45.55	1.13	1.22	MM
JCQ6HS		45.55	-0.09	-0.09	46.10	1.68	1.81	MR
K2CNPN		46.62	0.98	1.03	43.98	-0.44	-0.47	MZ
KY2FZ5		46.08	0.44	0.47	44.85	0.43	0.46	MR
M7P4ZQ		45.25	-0.39	-0.41	44.03	-0.39	-0.41	MR
N14751		46.30	0.66	0.70	43.80	-0.62	-0.67	MR
N1Q9S9		45.43	-0.21	-0.22	43.64	-0.78	-0.84	MR
P8BAES		44.90	-0.74	-0.78	44.32	-0.10	-0.11	MR
PH4LVU		44.98	-0.66	-0.69	43.60	-0.82	-0.88	MR
QYYUP5		45.28	-0.36	-0.38	44.60	0.18	0.20	MR
R669T1		45.38	-0.26	-0.27	43.80	-0.62	-0.67	MR
RQ4Z8D		43.75	-1.89	-2.00	44.35	-0.07	-0.07	TV
RX7DNE		47.28	1.64	1.74	43.88	-0.54	-0.58	MR
SDVHFN		44.85	-0.79	-0.84	43.30	-1.12	-1.20	MR
T74PR1		45.20	-0.44	-0.47	44.22	-0.20	-0.22	MR
UADZ6P		45.32	-0.32	-0.34	43.95	-0.47	-0.50	MM
WGTL54		45.37	-0.27	-0.29	43.88	-0.54	-0.58	MR
XT2G28		45.10	-0.54	-0.57	44.23	-0.19	-0.21	MR
XZURJH		47.47	1.83	1.93	45.08	0.66	0.72	MM

## Analysis 661

## Mooney Viscosity: 4-min NBR/SBR &amp; 8-min butyl readings (ML)

WebCode	Data Flag	Sample S61-S62			Sample S63-S64			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
Y3KGQG		46.40	0.76	0.80	44.92	0.50	0.54	MR
ZXT4HS		46.10	0.46	0.49	44.45	0.03	0.03	MR

Grand Means		Summary Statistics	
	45.640 ML		44.419 ML
Std Dev Btwn Labs			0.929 ML
	0.945 ML	Statistics based on 36 of 37 reporting participants	

Please refer to the sample information provided for Analysis 660.

**Comments on assigned Data Flags for Test #661**

5XXFZW (X) - Data for samples S63-S64 are high.

**Instrument Code Listing**

<b>661 Mooney Viscosity: 4-min NBR/SBR &amp; 8-min butyl readings (ML)</b>
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**Instruments (as reported by the labs):**

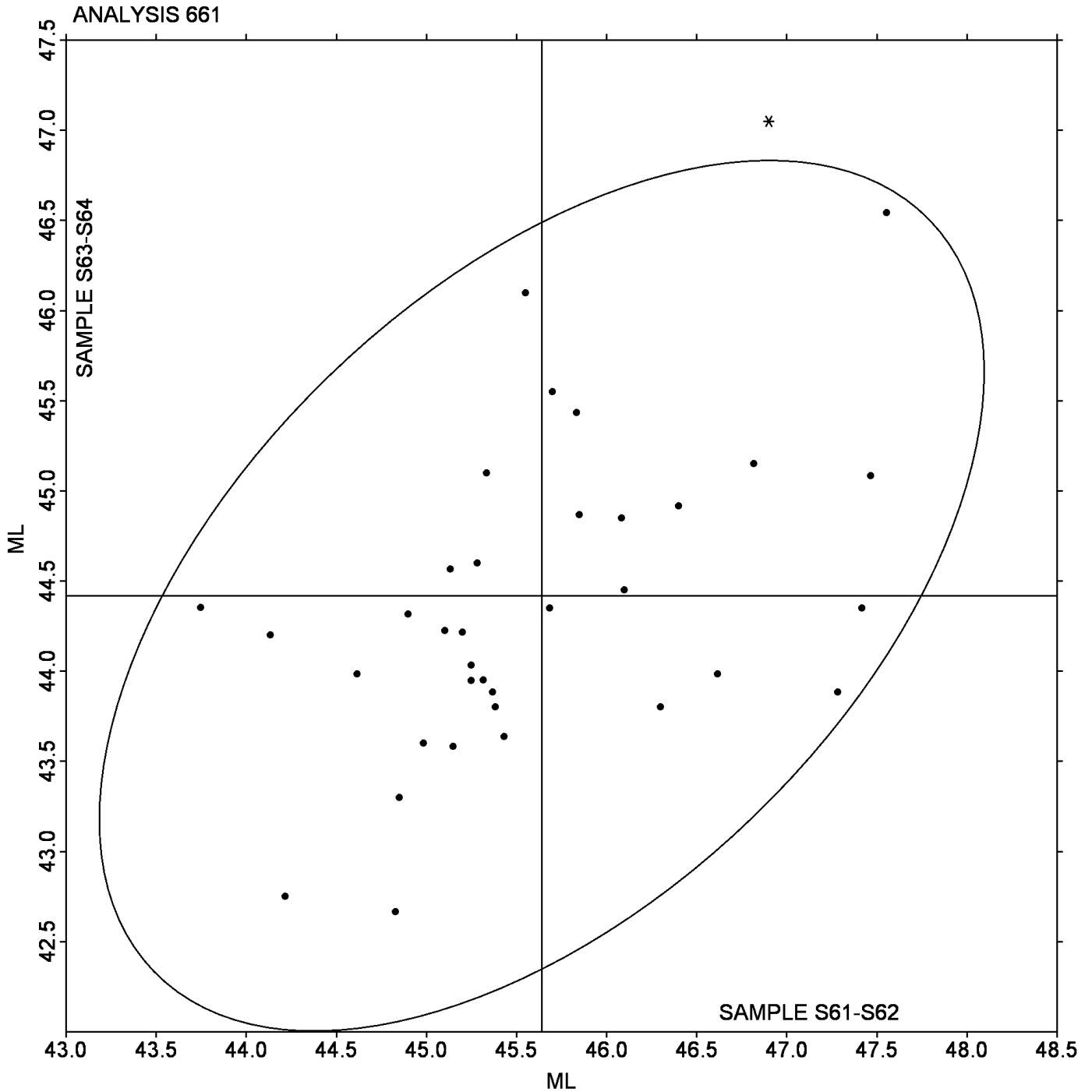
- |  |  |
|--|--|
| (ML) Alpha Technologies/Monsanto model not specified | (MM) Alpha Technologies Model 1xxx or OSM    |
| (MP) Monsanto Compact Mooney Viscometer              | (MR) Alpha Technologies Model MV2000/MV2000E |
| (MZ) Rebuilt Monsanto Mooney Viscometer              | (SF) Scott STI (any model)                   |
| (TV) Tech Pro Visc Tech (any model)                  | (XA) Special In-House Instrument             |
| (XX) Instrument make/model not specified by lab      |  |

Analysis 661

Mooney Viscosity: 4-min NBR/SBR & 8-min butyl readings (ML)

Grand Mean Sample S61-S62 = 45.640 ML

Grand Mean Sample S63-S64 = 44.419 ML



## Analysis 669

## ODR Vulcanization-Cure Time 10% (minutes)

WebCode	Data Flag	Sample W61-W62			Sample W63-W64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
61ECC7		1.620	0.063	0.17	2.172	-0.074	-0.10
6EL76A		1.378	-0.179	-0.49	1.930	-0.315	-0.44
6LJY5R		1.697	0.140	0.38	2.380	0.135	0.19
94G4QG		1.492	-0.065	-0.18	2.015	-0.230	-0.32
BMHVGF		1.415	-0.142	-0.39	2.020	-0.225	-0.31
BXD4TK		1.243	-0.314	-0.86	1.942	-0.304	-0.42
C5T39N		1.322	-0.235	-0.65	1.797	-0.449	-0.62
ENYFFW		2.438	0.881	2.42	3.768	1.523	2.11
KMWSE6		1.605	0.048	0.13	2.358	0.113	0.16
KSWTYP		1.258	-0.299	-0.82	1.437	-0.809	-1.12
LDW4SU	*	2.615	1.058	2.91	4.582	2.336	3.24
MEHTG9		1.397	-0.160	-0.44	1.992	-0.254	-0.35
Q2L9GJ		1.573	0.016	0.04	2.085	-0.160	-0.22
SJ18UM		1.395	-0.162	-0.45	1.943	-0.302	-0.42
VCYBHZ		1.460	-0.097	-0.27	2.025	-0.220	-0.31
VN2GDK		1.403	-0.154	-0.42	2.063	-0.182	-0.25
W1SG5U		1.398	-0.159	-0.44	2.025	-0.220	-0.31
X785ZN		1.339	-0.219	-0.60	1.983	-0.262	-0.36
X8T7CR		1.537	-0.020	-0.06	2.143	-0.102	-0.14

## Summary Statistics

## Grand Means

1.5571 minutes

2.2452 minutes

## Std Dev Btwn Labs

0.3636 minutes

0.7209 minutes

Statistics based on 19 of 19 reporting participants

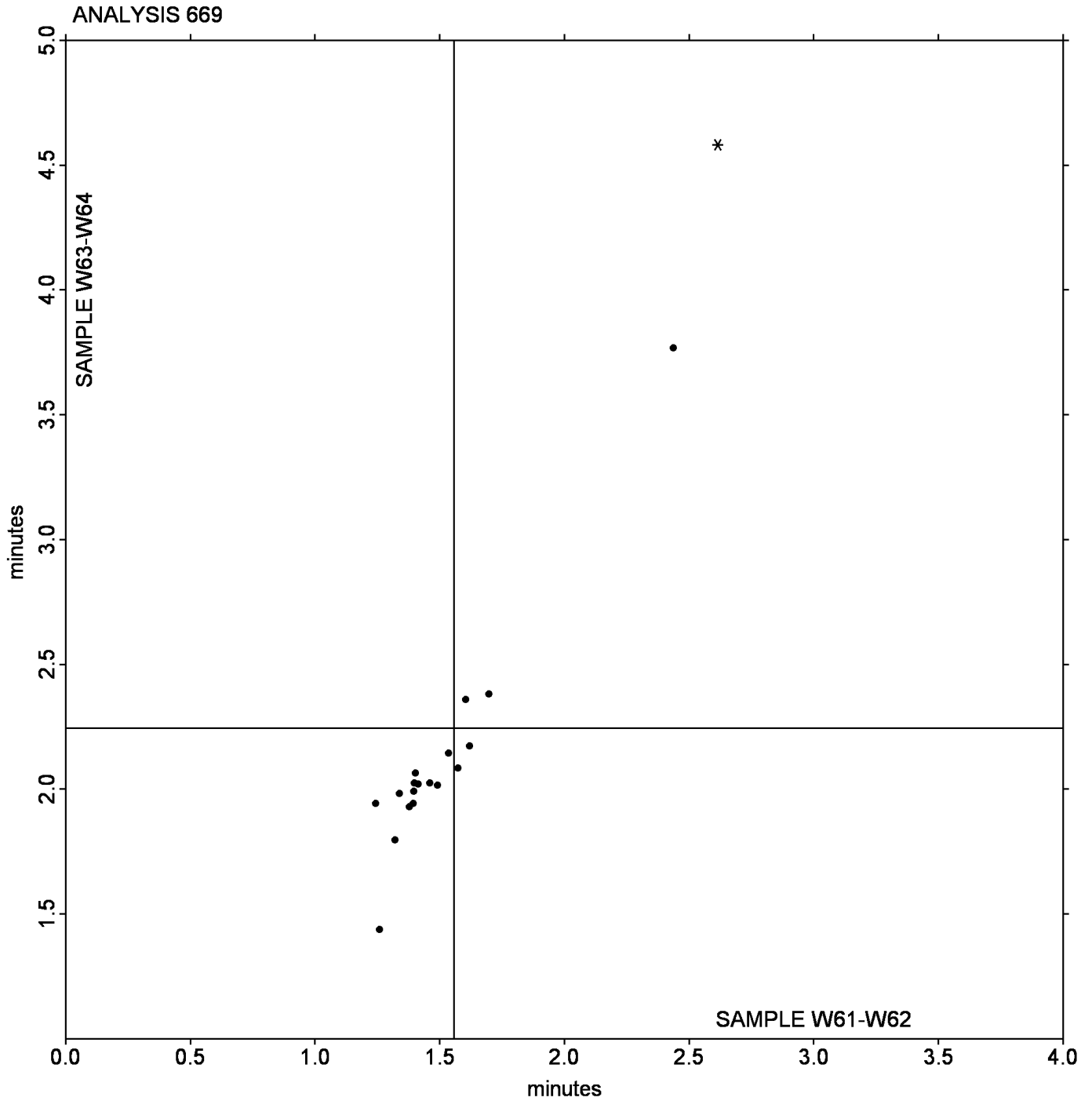
Samples W61-W62: EPDM compound #1 &amp; W63-W64: EPDM compound #2

Analysis 669

ODR Vulcanization-Cure Time 10% (minutes)

Grand Mean Sample W61-W62 = 1.5571 minutes

Grand Mean Sample W63-W64 = 2.2452 minutes



## Analysis 670

## ODR Vulcanization-Scorch Time, Ts1 (minutes)

WebCode	Data Flag	Sample W61-W62			Sample W63-W64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
1HX3EJ		0.998	-0.107	-0.99	1.687	-0.075	-0.28
2MXG7R		1.275	0.171	1.58	2.202	0.440	1.67
54XCJ3		0.960	-0.144	-1.34	1.110	-0.652	-2.48
59QJ43		1.197	0.092	0.86	1.725	-0.037	-0.14
5WAYRK		1.140	0.036	0.33	1.773	0.012	0.04
7J4Z68		1.048	-0.056	-0.52	1.837	0.075	0.28
9U521G		1.050	-0.054	-0.50	1.700	-0.062	-0.23
9VJEV6		1.118	0.014	0.13	1.952	0.190	0.72
A2XUTA		1.227	0.122	1.13	2.155	0.393	1.49
BP9J4P		1.115	0.011	0.10	2.130	0.368	1.40
CWXBF2		1.057	-0.048	-0.44	1.547	-0.215	-0.82
DFJVPJ		0.982	-0.123	-1.14	1.433	-0.328	-1.25
EAQUZW		1.210	0.106	0.98	1.723	-0.038	-0.15
EHMN2B		1.273	0.169	1.57	2.120	0.358	1.36
FNHGDK		1.027	-0.078	-0.72	1.660	-0.102	-0.39
HBNQYY	*	1.033	-0.071	-0.66	2.202	0.440	1.67
LVDEAL		1.357	0.252	2.34	2.050	0.288	1.10
MMSP27		1.075	-0.029	-0.27	1.673	-0.088	-0.34
PRT558		0.918	-0.186	-1.72	1.697	-0.065	-0.25
PULNRY		1.157	0.052	0.49	1.732	-0.030	-0.11
PZ2UTB		0.972	-0.133	-1.23	1.412	-0.350	-1.33
R766P1		1.107	0.002	0.02	1.615	-0.147	-0.56
S88QNK		1.182	0.077	0.72	1.648	-0.113	-0.43
T39U4L		1.090	-0.014	-0.13	1.622	-0.140	-0.53
VXUA4Z		1.035	-0.069	-0.64	1.658	-0.103	-0.39
ZDT97G		1.108	0.004	0.04	1.742	-0.020	-0.08

## Summary Statistics

## Grand Means

1.1042 minutes

1.7617 minutes

## Std Dev Btwn Labs

0.1079 minutes

0.2633 minutes

Statistics based on 26 of 26 reporting participants

Samples W61-W62: EPDM compound #1 &amp; W63-W64: EPDM compound #2



## Analysis 671

## ODR Vulcanization-Cure Time 50% (minutes)

WebCode	Data Flag	Sample W61-W62			Sample W63-W64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
49E3PJ		2.730	-0.201	-0.87	3.653	-0.002	-0.01
5C3T3A		2.877	-0.055	-0.24	3.412	-0.244	-0.76
8ADRGB		3.215	0.284	1.22	4.280	0.625	1.94
8FUJ6G		2.980	0.049	0.21	3.687	0.031	0.10
9JG9DZ		2.947	0.015	0.07	3.627	-0.029	-0.09
9VNYWF		2.955	0.024	0.10	3.642	-0.014	-0.04
BXT3TH		3.042	0.110	0.47	3.583	-0.072	-0.22
CAJKU		3.217	0.285	1.23	4.023	0.368	1.14
CPV9Y9		2.940	0.009	0.04	3.635	-0.020	-0.06
CRKLVU		2.520	-0.411	-1.77	2.900	-0.755	-2.35
CSTR7F		3.440	0.509	2.19	4.342	0.686	2.13
F6Q9NC		3.183	0.252	1.08	3.907	0.251	0.78
H13G6G		2.668	-0.263	-1.13	3.343	-0.312	-0.97
HN88BA		2.540	-0.391	-1.68	3.312	-0.344	-1.07
JZ2XVG		2.843	-0.088	-0.38	3.628	-0.027	-0.08
MVV62Y		2.744	-0.187	-0.81	3.380	-0.275	-0.85
MX83UH		3.110	0.179	0.77	3.818	0.163	0.51
NE8CBT		2.908	-0.023	-0.10	3.592	-0.064	-0.20
P7K3D2		2.828	-0.103	-0.44	3.712	0.056	0.17
PDD5P6		2.565	-0.366	-1.58	3.225	-0.430	-1.34
R2PKF8		3.010	0.079	0.34	3.888	0.233	0.72
SNLZEN		3.085	0.154	0.66	3.998	0.343	1.06
TFRN4Z		3.003	0.072	0.31	3.583	-0.072	-0.22
TUB44J		3.277	0.345	1.48	3.993	0.338	1.05
UKJ3AK		2.847	-0.085	-0.36	3.447	-0.209	-0.65
X9HJWG		2.743	-0.188	-0.81	3.432	-0.224	-0.69

## Summary Statistics

## Grand Means

2.9314 minutes

3.6555 minutes

## Std Dev Btwn Labs

0.2325 minutes

0.3221 minutes

Statistics based on 26 of 26 reporting participants

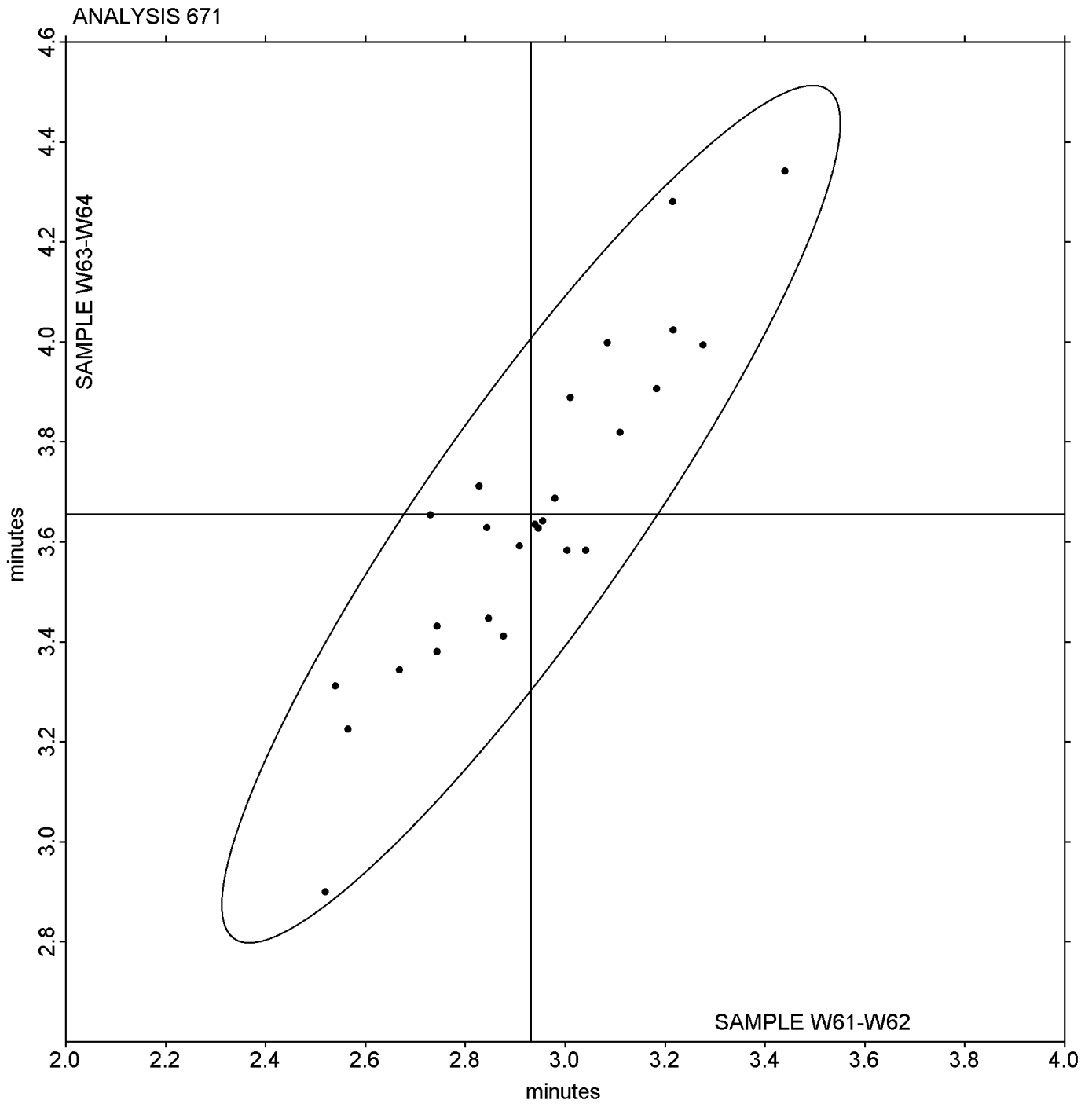
Samples W61-W62: EPDM compound #1 &amp; W63-W64: EPDM compound #2

Analysis 671

ODR Vulcanization-Cure Time 50% (minutes)

Grand Mean Sample W61-W62 = 2.9314 minutes

Grand Mean Sample W63-W64 = 3.6555 minutes



## Analysis 672

## ODR Vulcanization-Cure Time 90% (minutes)

WebCode	Data Flag	Sample W61-W62			Sample W63-W64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
3WXBZW		12.81	0.86	0.89	8.173	1.245	1.21
4LXMVL		12.63	0.69	0.71	6.232	-0.697	-0.68
5AW8EA		11.51	-0.43	-0.45	6.678	-0.250	-0.24
66EET9		12.57	0.62	0.64	7.108	0.180	0.17
6F7PLP		9.89	-2.05	-2.12	5.677	-1.252	-1.21
6YZZHG		9.93	-2.01	-2.08	6.120	-0.809	-0.78
71G8NP		10.69	-1.26	-1.30	7.552	0.623	0.60
AER2W4		12.80	0.85	0.88	9.185	2.256	2.19
CN43VB		11.94	-0.01	-0.01	7.377	0.448	0.43
CPJFH9		11.01	-0.94	-0.97	6.333	-0.595	-0.58
D7CXAF		12.76	0.82	0.84	6.600	-0.329	-0.32
DHM6JD		13.82	1.88	1.94	8.793	1.865	1.81
GACKVH		12.29	0.34	0.35	5.780	-1.149	-1.11
GW3SKB		13.11	1.17	1.20	7.445	0.516	0.50
GXURPV		13.34	1.40	1.45	7.197	0.268	0.26
JHPTQN		11.84	-0.11	-0.11	5.953	-0.975	-0.95
L36877		12.12	0.17	0.18	7.063	0.135	0.13
L85VM2		11.82	-0.12	-0.13	6.925	-0.004	0.00
QCBBCY		11.01	-0.93	-0.97	6.625	-0.304	-0.29
R6EHBK		12.90	0.96	0.99	7.550	0.621	0.60
TPCBPA		11.82	-0.12	-0.13	6.958	0.030	0.03
TXYQ55		11.43	-0.51	-0.53	5.658	-1.270	-1.23
UHCHMK		12.37	0.43	0.44	6.187	-0.742	-0.72
UJBNB8		10.94	-1.00	-1.04	5.792	-1.137	-1.10
YC7JW4		11.57	-0.38	-0.39	5.818	-1.110	-1.08
YFFM67		11.73	-0.21	-0.22	6.945	0.016	0.02
YVVLKL	*	11.85	-0.09	-0.09	9.350	2.421	2.35

## Summary Statistics

## Grand Means

11.943 minutes

6.9287 minutes

## Std Dev Btwn Labs

0.969 minutes

1.0309 minutes

Statistics based on 27 of 27 reporting participants

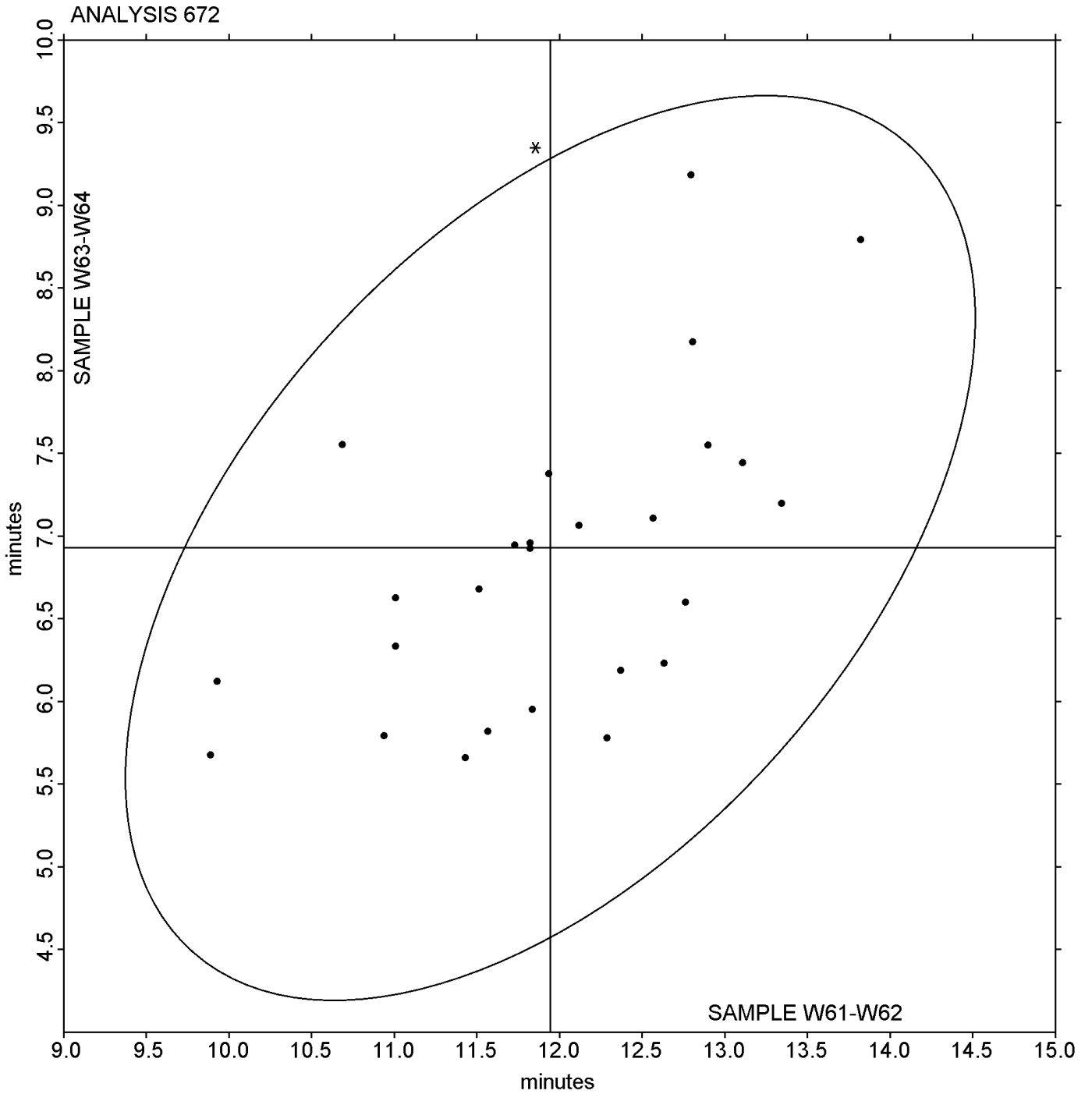
Samples W61-W62: EPDM compound #1 &amp; W63-W64: EPDM compound #2

Analysis 672

ODR Vulcanization-Cure Time 90% (minutes)

Grand Mean Sample W61-W62 = 11.943 minutes

Grand Mean Sample W63-W64 = 6.9287 minutes



## Analysis 673

## ODR Vulcanization: Minimum Torque (lbf.in)

WebCode	Data Flag	Sample W61-W62			Sample W63-W64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
1V8TV8		6.905	-0.329	-0.64	13.35	-0.58	-0.25
2PLEFB		6.850	-0.384	-0.75	14.57	0.64	0.28
3S6LVR		7.507	0.273	0.53	11.48	-2.45	-1.08
3ZE22F		7.788	0.554	1.08	17.22	3.29	1.44
6YXWK8		7.625	0.391	0.76	18.43	4.50	1.97
9QH2CF		6.643	-0.591	-1.15	11.33	-2.60	-1.14
ATE5C1		6.923	-0.311	-0.61	12.46	-1.47	-0.65
BQ9B3F		7.750	0.516	1.01	15.82	1.88	0.83
C7VMWG		7.857	0.623	1.22	16.45	2.52	1.10
C8TJ9S		6.937	-0.297	-0.58	16.09	2.16	0.95
CJQDE9		6.965	-0.269	-0.53	12.36	-1.58	-0.69
E6CFKD		6.373	-0.861	-1.68	13.69	-0.24	-0.11
FQBHQT		8.538	1.304	2.55	18.68	4.75	2.09
FXV4UB		7.433	0.199	0.39	12.62	-1.31	-0.58
GSPGS7		6.765	-0.469	-0.92	11.29	-2.64	-1.16
HRKHS4	X	9.553	2.319	4.53	13.97	0.04	0.02
JCMEFS		7.480	0.246	0.48	12.03	-1.90	-0.83
MVCTJZ		6.672	-0.562	-1.10	12.26	-1.67	-0.73
MX98M4		6.683	-0.551	-1.08	12.34	-1.59	-0.70
NDRFLE		7.185	-0.049	-0.10	12.34	-1.59	-0.70
NM997H		7.860	0.626	1.22	16.55	2.62	1.15
R6FK6G		6.907	-0.327	-0.64	11.50	-2.44	-1.07
T7XFJ9		6.683	-0.551	-1.08	11.59	-2.34	-1.03
T81TR2		7.675	0.441	0.86	13.56	-0.37	-0.16
V5HSYX		7.193	-0.041	-0.08	15.89	1.96	0.86
WQQ969		7.558	0.324	0.63	13.55	-0.38	-0.17
XE9SDG		7.331	0.097	0.19	14.80	0.86	0.38

## Summary Statistics

## Grand Means

7.2342 lbf.in

13.931 lbf.in

## Std Dev Btwn Labs

0.5118 lbf.in

2.278 lbf.in

Statistics based on 26 of 27 reporting participants

## Analysis 673

## ODR Vulcanization: Minimum Torque (lbf.in)

		Summary Statistics in SI Units	
Grand Means	8.1735 dN.m	15.740	dN.m
Stnd Dev Btwn Labs	0.5782 dN.m	2.574	dN.m
Statistics based on 26 of 27 reporting participants			

Samples W61-W62: EPDM compound #1 & W63-W64: EPDM compound #2

**Comments on assigned Data Flags for Test #673**

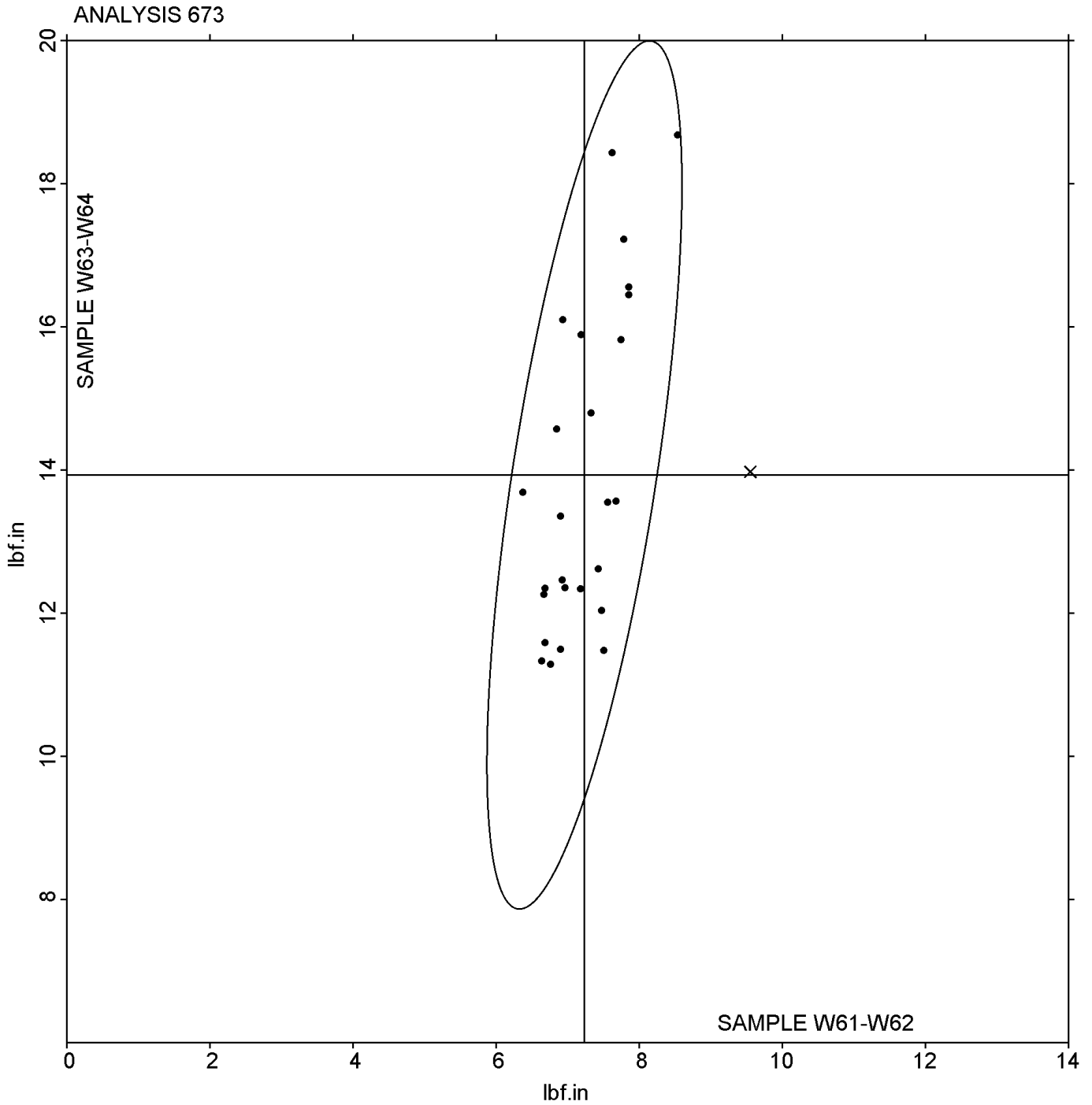
HRKHS4 (X) - Data for samples W61-W62 are high.

Analysis 673

ODR Vulcanization: Minimum Torque (lbf.in)

Grand Mean Sample W61-W62 = 7.2342 lbf.in

Grand Mean Sample W63-W64 = 13.931 lbf.in



## Rubber Interlaboratory Testing Program Analysis 674

### ODR Vulcanization: Maximum Torque (lbf.in)

WebCode	Data Flag	Sample W61-W62			Sample W63-W64		
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV
11AP2R		39.76	4.04	2.38	35.74	2.62	1.48
3JD7RL		37.13	1.41	0.83	33.38	0.25	0.14
3XDJ9K		33.33	-2.39	-1.41	30.66	-2.46	-1.39
4PMBEL		38.49	2.77	1.63	34.98	1.85	1.05
5N51Z6		37.10	1.38	0.81	32.09	-1.03	-0.59
7FJC9D		36.56	0.84	0.50	33.43	0.31	0.17
8GJDH5		34.15	-1.57	-0.93	31.52	-1.61	-0.91
A56MB4		37.84	2.12	1.25	37.04	3.91	2.21
BCM3LG		34.72	-1.00	-0.59	32.23	-0.90	-0.51
CXR49Z		34.03	-1.70	-1.00	31.43	-1.69	-0.96
EDN9DL		33.91	-1.81	-1.07	30.97	-2.16	-1.22
EMC6UT		36.18	0.46	0.27	34.73	1.60	0.91
FYW2FM		34.64	-1.08	-0.64	32.88	-0.25	-0.14
GAWCXB		34.28	-1.44	-0.85	31.37	-1.76	-0.99
GRXE5Q		35.94	0.22	0.13	33.17	0.04	0.02
JQV69B		36.41	0.68	0.40	32.29	-0.83	-0.47
QAZYEY		35.33	-0.40	-0.23	33.17	0.04	0.02
R3QCFZ		37.07	1.35	0.79	35.27	2.14	1.21
RUPQXV		35.81	0.09	0.05	34.95	1.83	1.03
SLUWLA		35.09	-0.63	-0.37	31.57	-1.56	-0.88
TZRFQE		34.77	-0.95	-0.56	32.50	-0.63	-0.36
VQFVL9		35.62	-0.10	-0.06	33.28	0.15	0.09
XV8E4U		34.93	-0.79	-0.47	32.28	-0.85	-0.48
YLNU25		36.19	0.47	0.28	33.89	0.77	0.43
ZMUSG6		37.34	1.62	0.95	36.05	2.92	1.65
ZNWBTM		32.15	-3.57	-2.11	30.43	-2.70	-1.53

#### Summary Statistics

**Grand Means**

35.721 lbf.in

33.126 lbf.in

**Std Dev Btwn Labs**

1.696 lbf.in

1.767 lbf.in

Statistics based on 26 of 26 reporting participants

## Analysis 674

## ODR Vulcanization: Maximum Torque (Ibf.in)

		Summary Statistics in SI Units	
Grand Means	40.360 dN.m	37.427	dN.m
Std Dev Btwn Labs	1.916 dN.m	1.997	dN.m
Statistics based on 26 of 26 reporting participants			

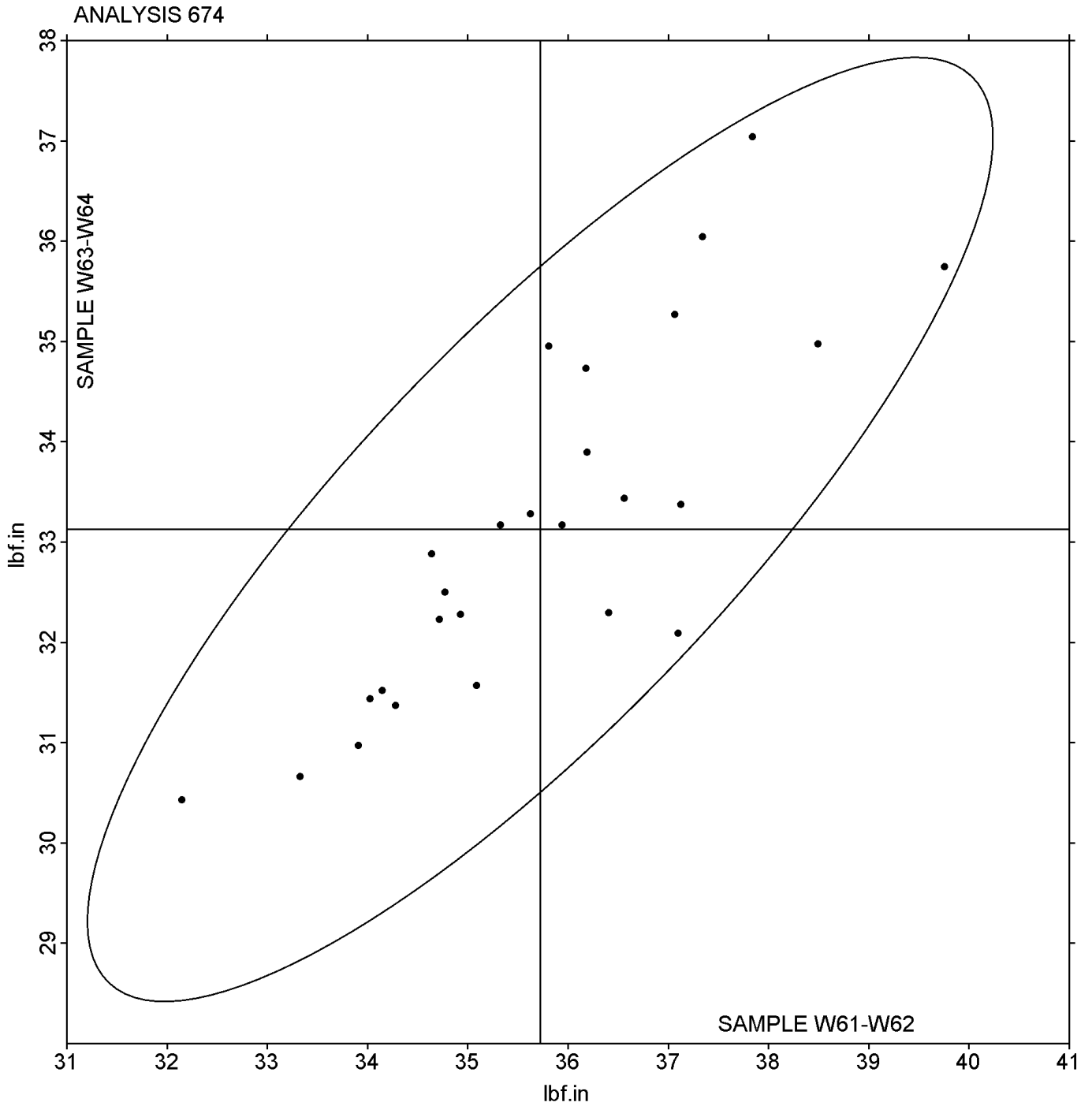
Samples W61-W62: EPDM compound #1 & W63-W64: EPDM compound #2

Analysis 674

ODR Vulcanization: Maximum Torque (lbf.in)

Grand Mean Sample W61-W62 = 35.721 lbf.in

Grand Mean Sample W63-W64 = 33.126 lbf.in



## Analysis 684

## MDR Vulcanization-Cure Time 10% (minutes)

WebCode	Data Flag	Sample W65-W66			Sample W67-W68			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
5FER9J		1.255	-0.036	-0.61	1.300	0.016	0.28	MC
5W72YR		1.303	0.012	0.21	1.268	-0.015	-0.26	MC
65T577		1.297	0.006	0.10	1.305	0.021	0.36	MC
6LX55U		1.317	0.026	0.44	1.278	-0.005	-0.09	MD
9UMASX		1.370	0.079	1.34	1.313	0.030	0.50	MC
AC1Y3R		1.307	0.016	0.27	1.325	0.041	0.70	MC
EDYMUX		1.192	-0.099	-1.69	1.178	-0.106	-1.80	MC
FBLLXP		1.292	0.001	0.01	1.242	-0.042	-0.71	MD
HS1EHH		1.245	-0.046	-0.79	1.227	-0.057	-0.97	MC
HXWAFB		1.260	-0.031	-0.53	1.300	0.016	0.28	MD
L9AGQF	*	1.463	0.172	2.94	1.467	0.183	3.10	TP
MCPLXP		1.233	-0.058	-0.98	1.198	-0.085	-1.45	MC
N9TYAF		1.315	0.024	0.41	1.233	-0.050	-0.85	XX
NC6Y67		1.335	0.044	0.75	1.368	0.085	1.43	MC
NNJUQL		1.323	0.032	0.55	1.312	0.028	0.47	MD
PLNYTG		1.388	0.097	1.66	1.383	0.100	1.69	TP
Q36AXF		1.318	0.027	0.46	1.305	0.021	0.36	MC
QDZR99		1.300	0.009	0.15	1.267	-0.017	-0.29	MC
QFCTKW		1.222	-0.069	-1.17	1.272	-0.011	-0.19	MC
QRAHNA		1.283	-0.008	-0.13	1.303	0.020	0.33	TP
SM98EK		1.300	0.009	0.15	1.303	0.019	0.32	MC
THZSTW		1.272	-0.019	-0.32	1.261	-0.023	-0.38	MC
UCD2GS		1.240	-0.051	-0.87	1.232	-0.052	-0.88	MP
VYWXZG		1.310	0.019	0.32	1.300	0.016	0.28	MC
XFQEZU		1.245	-0.046	-0.79	1.245	-0.039	-0.66	MC
YTSUKJ		1.242	-0.049	-0.84	1.263	-0.020	-0.35	MC
Z89EY5		1.367	0.076	1.29	1.327	0.043	0.73	MC
ZDE5AW		1.237	-0.054	-0.93	1.243	-0.040	-0.68	MD
ZU18HC		1.210	-0.081	-1.38	1.208	-0.075	-1.28	MC

## Summary Statistics

## Grand Means

1.2911 minutes

1.2837 minutes

## Std Dev Btwn Labs

0.0587 minutes

0.0590 minutes

Statistics based on 29 of 29 reporting participants

**Analysis 684**

**MDR Vulcanization-Cure Time 10% (minutes)**

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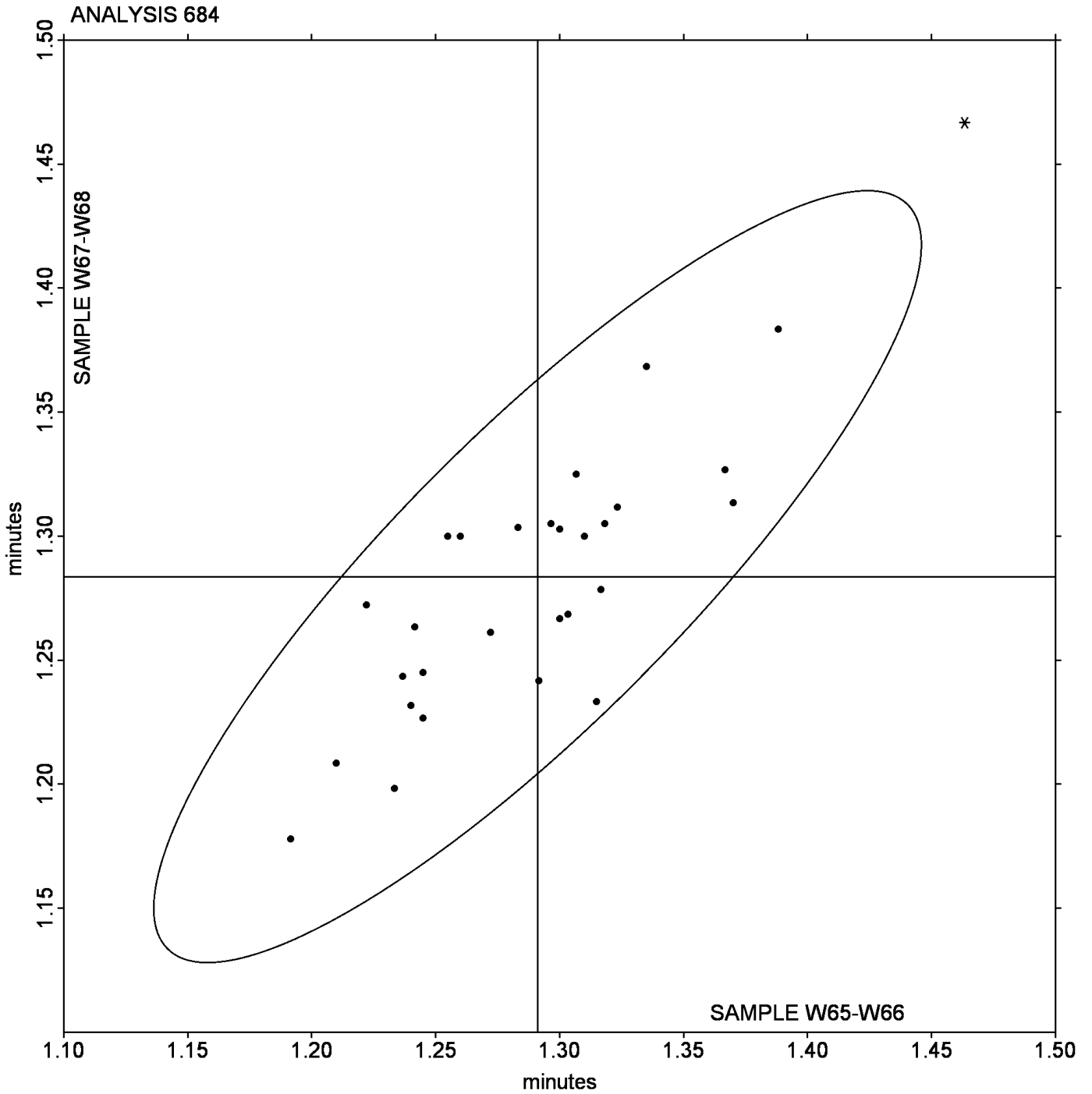
Samples W65-W66: EPDM compound, batch #1 & W67-W68: EPDM compound, batch #2

Analysis 684

MDR Vulcanization-Cure Time 10% (minutes)

Grand Mean Sample W65-W66 = 1.2911 minutes

Grand Mean Sample W67-W68 = 1.2837 minutes



## Rubber Interlaboratory Testing Program

## Analysis 685

## MDR Vulcanization-Scorch Time, Ts1 (minutes)

WebCode	Data Flag	Sample W65-W66			Sample W67-W68			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
1SGU8G		1.362	0.079	1.09	1.432	0.134	1.65	MD
33XS3W		1.300	0.017	0.24	1.300	0.003	0.03	MC
3PT18Y		1.270	-0.013	-0.18	1.305	0.008	0.09	MC
4CAVHM		1.255	-0.028	-0.39	1.273	-0.024	-0.30	MC
4WYJQV	X	1.595	0.312	4.31	1.647	0.349	4.29	TP
89Q8P4		1.307	0.024	0.33	1.330	0.033	0.40	MC
8MPD9Q		1.297	0.014	0.19	1.373	0.076	0.93	MC
9JFENV		1.340	0.057	0.79	1.323	0.026	0.32	MC
BM3ME8		1.256	-0.027	-0.38	1.250	-0.047	-0.58	MC
BP93MS		1.205	-0.078	-1.08	1.187	-0.111	-1.36	MC
CJ1J3J		1.232	-0.051	-0.71	1.240	-0.057	-0.71	MC
CX5PP3		1.308	0.025	0.35	1.327	0.029	0.36	MC
DNQWHM		1.302	0.019	0.26	1.365	0.068	0.83	MC
E2GLSP		1.312	0.029	0.40	1.295	-0.002	-0.03	MD
FNDZ2Q		1.327	0.044	0.60	1.308	0.011	0.13	MC
FY6NCU	*	1.505	0.222	3.07	1.525	0.228	2.80	TP
H2LFMD		1.382	0.099	1.36	1.443	0.146	1.79	MC
J6RVUV		1.253	-0.030	-0.41	1.195	-0.102	-1.26	MC
JXV6KK		1.212	-0.071	-0.99	1.222	-0.076	-0.93	MC
K4D41Z		1.311	0.028	0.39	1.336	0.039	0.48	MC
KVTCTL		1.260	-0.023	-0.32	1.300	0.003	0.03	MD
Q9U9KH		1.270	-0.013	-0.18	1.287	-0.011	-0.13	MD
RNT75Y		1.244	-0.039	-0.53	1.264	-0.034	-0.41	MC
SK181U		1.127	-0.156	-2.16	1.155	-0.142	-1.75	MP
U39XJF		1.300	0.017	0.24	1.325	0.028	0.34	MC
U64X8Z		1.253	-0.030	-0.41	1.312	0.014	0.17	MC
V6QRTL		1.265	-0.018	-0.25	1.310	0.013	0.15	MC
V742ZU		1.333	0.050	0.70	1.333	0.036	0.44	MC
VD9624		1.153	-0.130	-1.79	1.172	-0.126	-1.54	MC
VED4TZ	X	1.189	-0.094	-1.30	1.364	0.066	0.82	MC
VQCEXA		1.355	0.072	1.00	1.290	-0.007	-0.09	XX
YAKVWC		1.168	-0.115	-1.59	1.162	-0.136	-1.67	MC
Z2XW75		1.310	0.027	0.37	1.282	-0.016	-0.19	MD

**Rubber Interlaboratory Testing Program  
Analysis 685**

**MDR Vulcanization-Scorch Time, Ts1 (minutes)**

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		<b>Summary Statistics</b>	
<b>Grand Means</b>	1.2830 minutes	1.2974 minutes	
<b>Std Dev Btwn Labs</b>	0.0723 minutes	0.0814 minutes	
Statistics based on 31 of 33 reporting participants			

Samples W65-W66: EPDM compound, batch #1 & W67-W68: EPDM compound, batch #2

**Comments on assigned Data Flags for Test #685**

4WYJQV (X) - Data for all Samples are high. Possible Systematic Error

VED4TZ (X) - Inconsistency in testing between Sample sets and within the determinations for both Sample sets.

**Instrument Code Listing**

**685 MDR Vulcanization-Scorch Time, Ts1 (minutes)**

**Instruments (as reported by the labs):**

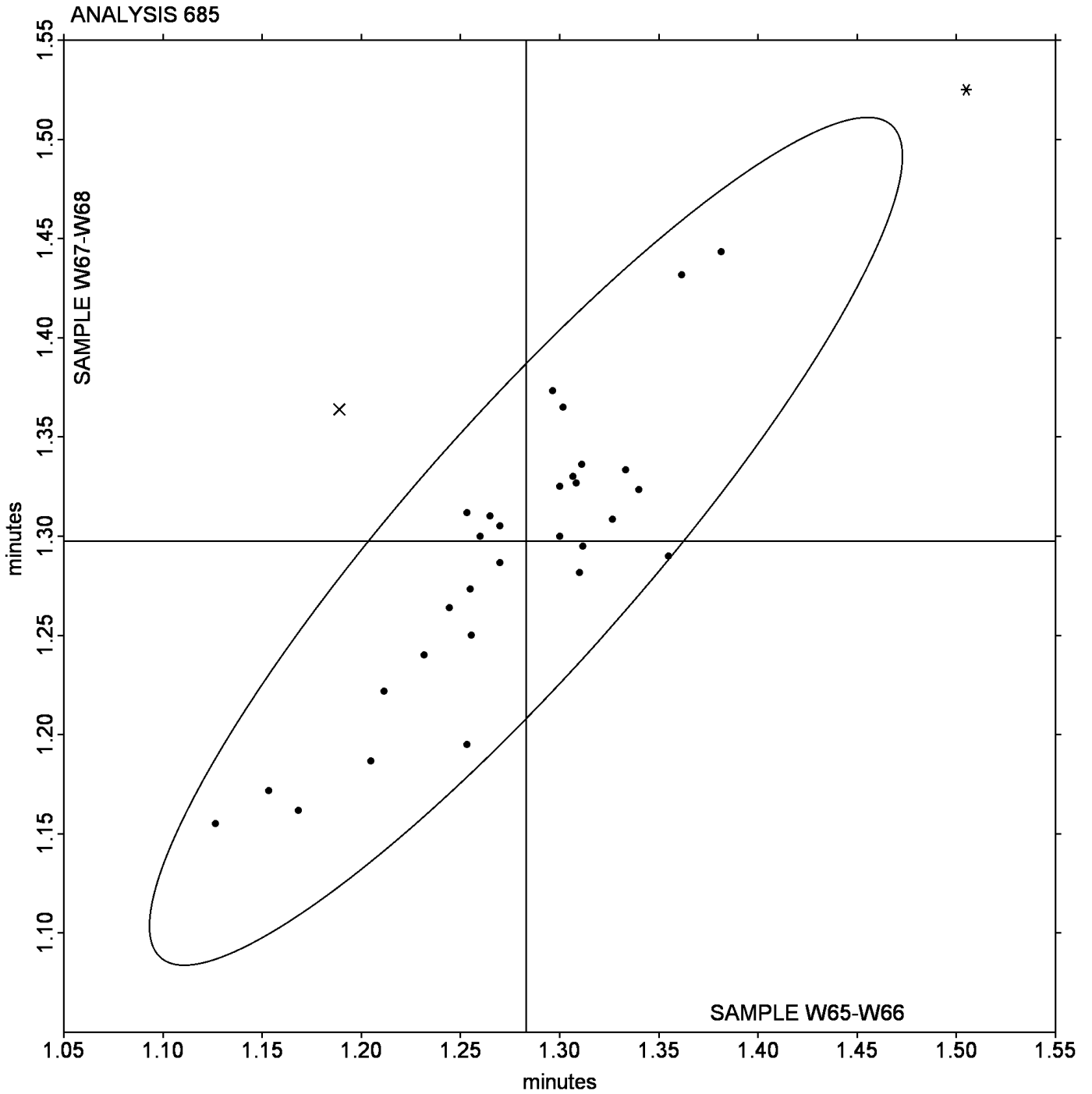
(MC) Alpha Technologies [Monsanto] MDR 2000 or 2000E	(MD) Alpha Tech. Rubber Process Analyzer (RPA 2000)
(MP) Alpha Technologies [Monsanto] MDR 2000P	(TP) Tech Pro MDR model MDPT
(XX) Instrument model not specified by lab	

Analysis 685

MDR Vulcanization-Scorch Time, Ts1 (minutes)

Grand Mean Sample W65-W66 = 1.2830 minutes

Grand Mean Sample W67-W68 = 1.2974 minutes



## Rubber Interlaboratory Testing Program

## Analysis 686

## MDR Vulcanization-Cure Time 50% (minutes)

WebCode	Data Flag	Sample W65-W66			Sample W67-W68			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
134UYS		2.908	-0.474	-1.91	2.972	-0.280	-1.22	MC
15DWQH		3.033	-0.349	-1.41	2.808	-0.444	-1.93	MC
1AA7AF		3.285	-0.098	-0.39	3.238	-0.014	-0.06	MC
57BFA6		3.545	0.162	0.65	3.445	0.192	0.84	MC
78JZ7S		3.035	-0.348	-1.40	2.977	-0.276	-1.20	TP
7XF9CD		3.412	0.029	0.12	3.268	0.016	0.07	MP
8B9DUU		3.452	0.069	0.28	3.267	0.014	0.06	MD
A751J2		3.205	-0.178	-0.72	2.893	-0.359	-1.56	XX
A7XTPK		3.377	-0.006	-0.02	3.350	0.098	0.42	MC
AF2Z3N		3.283	-0.099	-0.40	3.050	-0.202	-0.88	MC
BXNDA4		3.308	-0.074	-0.30	3.255	0.003	0.01	MC
CW32PR		3.568	0.186	0.75	3.372	0.119	0.52	MC
DALHGP		3.160	-0.223	-0.90	2.982	-0.271	-1.18	MC
DXV8V9		3.123	-0.259	-1.04	2.958	-0.294	-1.28	MC
F36TFD		3.398	0.016	0.06	3.397	0.144	0.63	MD
G5TL4G		3.282	-0.101	-0.41	3.207	-0.046	-0.20	MC
L9N6R5		3.055	-0.328	-1.32	3.037	-0.216	-0.94	MC
M5VDCY		3.492	0.109	0.44	3.247	-0.006	-0.02	MC
N2PBW6		3.620	0.237	0.96	3.568	0.316	1.37	MC
NKMJ4A		3.417	0.034	0.14	3.292	0.039	0.17	MC
NNZXHX		2.867	-0.516	-2.08	2.857	-0.396	-1.72	MC
P233KG		3.310	-0.073	-0.29	3.227	-0.026	-0.11	MD
Q55MF8		3.388	0.006	0.02	3.202	-0.051	-0.22	MC
QC96SA		3.583	0.201	0.81	3.550	0.298	1.29	TP
QMFPJA		3.310	-0.073	-0.29	3.253	0.001	0.00	MC
R1CN2J	*	4.043	0.661	2.66	3.910	0.658	2.86	TP
SWFKF3		3.447	0.064	0.26	3.193	-0.059	-0.26	MC
UYHNHU		3.507	0.124	0.50	3.410	0.158	0.69	MC
VT7DVT		3.361	-0.022	-0.09	3.278	0.025	0.11	MC
W4ESYY		3.656	0.273	1.10	3.503	0.250	1.09	MC
WTVT89		3.627	0.244	0.98	3.340	0.088	0.38	MC
WZT2FF	*	3.893	0.511	2.06	3.502	0.249	1.08	MD
XE1XC3		3.537	0.154	0.62	3.447	0.194	0.85	MC
YH8J18		3.458	0.076	0.30	3.292	0.039	0.17	MD
ZZE954		3.453	0.071	0.28	3.290	0.038	0.16	MC

**Rubber Interlaboratory Testing Program**  
**Analysis 686**

**MDR Vulcanization-Cure Time 50% (minutes)**

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		Summary Statistics	
<b>Grand Means</b>	3.3828 minutes	3.2524 minutes	
<b>Std Dev Btwn Labs</b>	0.2484 minutes	0.2299 minutes	
<b>Statistics based on 35 of 35 reporting participants</b>			

Samples W65-W66: EPDM compound, batch #1 & W67-W68: EPDM compound, batch #2

**Instrument Code Listing**

**686 MDR Vulcanization-Cure Time 50% (minutes)**

**Instruments (as reported by the labs):**

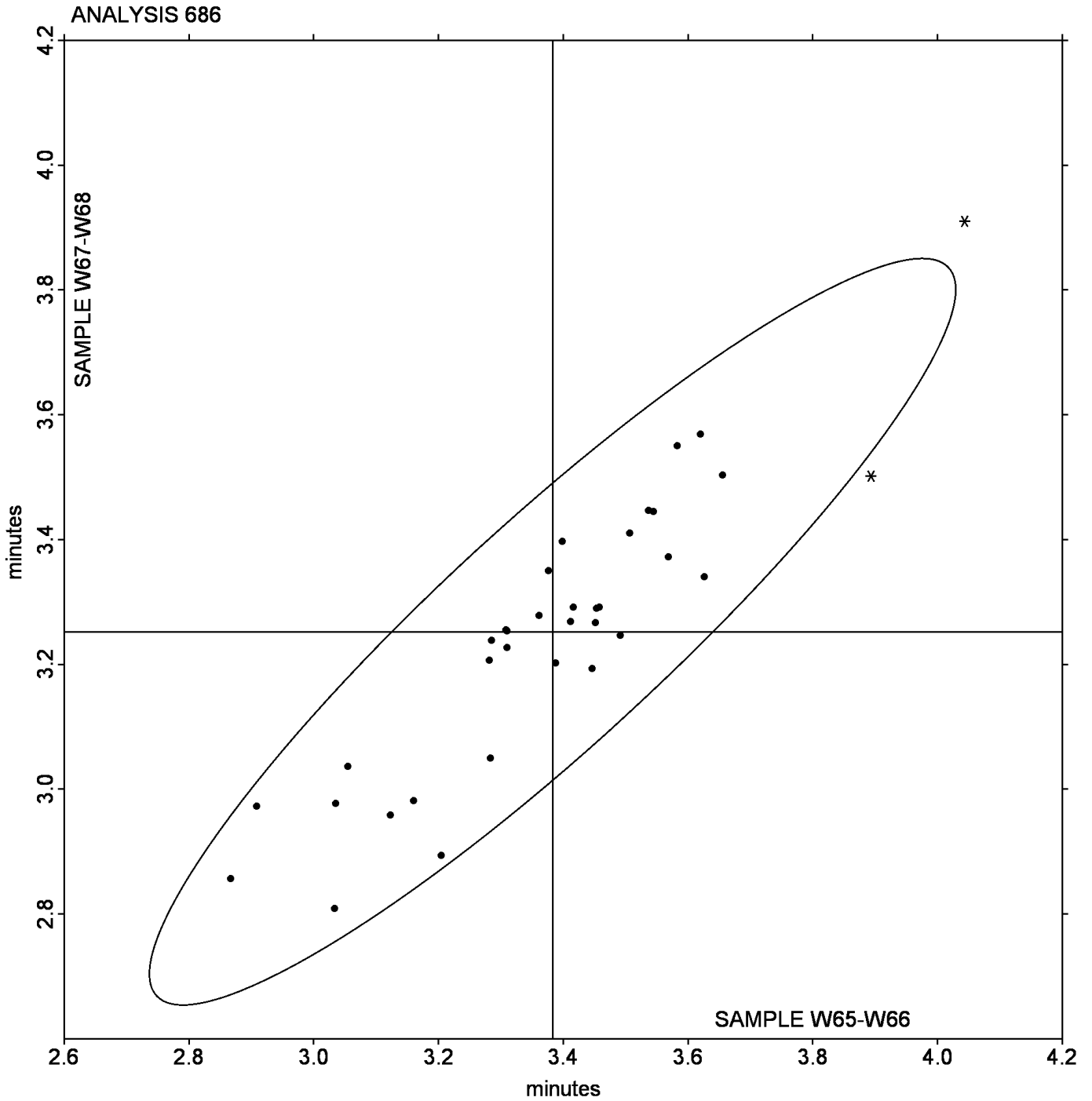
- |  |   |
|--|---|
| (MC) Alpha Technologies [Monsanto] MDR 2000 or 2000E | (MD) Alpha Tech. Rubber Process Analyzer (RPA 2000) |
| (MP) Alpha Technologies [Monsanto] MDR 2000P         | (TP) Tech Pro MDR model MDPT                        |
| (XX) Instrument model not specified by lab           |   |

Analysis 686

MDR Vulcanization-Cure Time 50% (minutes)

Grand Mean Sample W65-W66 = 3.3828 minutes

Grand Mean Sample W67-W68 = 3.2524 minutes



## Rubber Interlaboratory Testing Program

## Analysis 687

## MDR Vulcanization-Cure Time 90% (minutes)

WebCode	Data Flag	Sample W65-W66			Sample W67-W68			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
1A374K	*	5.483	-0.540	-2.94	5.683	-0.328	-2.32	MC
2VPEZE		5.787	-0.237	-1.29	5.937	-0.075	-0.53	MC
365ZYM		5.923	-0.100	-0.55	6.100	0.089	0.63	MC
5WV9FA		6.065	0.041	0.22	6.015	0.004	0.03	MC
7V2TXX		6.355	0.331	1.80	6.088	0.077	0.54	MC
8DU8FP		6.030	0.006	0.03	6.087	0.075	0.53	MC
8SKTHJ		5.872	-0.151	-0.82	5.828	-0.183	-1.30	MC
AE9DSB		5.852	-0.172	-0.94	5.923	-0.088	-0.62	MC
ATTQUQ	X	6.400	0.376	2.04	6.555	0.544	3.84	MP
CFPCDQ		6.157	0.133	0.72	6.078	0.067	0.47	MD
CG21KJ		5.900	-0.124	-0.67	5.992	-0.020	-0.14	MD
CQC8B7		6.103	0.080	0.43	5.940	-0.071	-0.50	MC
CV1XSA		6.103	0.079	0.43	6.075	0.064	0.45	MC
D5SGDP		5.862	-0.162	-0.88	5.858	-0.153	-1.08	MC
D5VNKG		6.087	0.063	0.34	5.947	-0.065	-0.46	MC
EC898L		6.110	0.086	0.47	6.130	0.119	0.84	MC
EGUDJV		5.982	-0.042	-0.23	6.025	0.014	0.10	MC
ES5JWR		6.233	0.210	1.14	6.193	0.182	1.29	MD
F4QG2U		6.213	0.190	1.03	6.057	0.045	0.32	XX
GG4BHV		6.017	-0.007	-0.04	6.068	0.057	0.40	MC
GGP89H		5.840	-0.184	-1.00	5.707	-0.305	-2.15	MC
K315VA		6.158	0.135	0.73	6.042	0.030	0.22	MC
LDTK1K		5.995	-0.029	-0.16	6.039	0.028	0.20	MC
NWT2P6		5.983	-0.040	-0.22	6.117	0.105	0.74	MC
T3FSQG		6.242	0.218	1.18	6.197	0.186	1.31	MC
T782K4		5.883	-0.140	-0.76	5.833	-0.178	-1.26	MC
V7NA2P	X	6.763	0.740	4.02	6.765	0.754	5.33	TP
V9WC1E	X	5.388	-0.635	-3.45	5.145	-0.866	-6.12	TP
VTJLSP		5.680	-0.344	-1.87	5.750	-0.261	-1.85	MP
VTLUV8		6.148	0.125	0.68	6.088	0.077	0.54	MC
WCD6E6		6.257	0.233	1.27	6.177	0.165	1.17	MC
WEK5GS		6.103	0.080	0.43	6.168	0.157	1.11	MC
WL7AE7		6.027	0.003	0.02	6.010	-0.001	-0.01	MD
WZBR2G		6.082	0.058	0.31	5.970	-0.041	-0.29	MD
Y32LDU		6.230	0.206	1.12	6.240	0.229	1.62	MC

**Rubber Interlaboratory Testing Program  
Analysis 687**

**MDR Vulcanization-Cure Time 90% (minutes)**

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		Summary Statistics	
<b>Grand Means</b>	6.0238 minutes		6.0113 minutes
<b>Std Dev Btwn Labs</b>	0.1840 minutes		0.1415 minutes
<b>Statistics based on 32 of 35 reporting participants</b>			

Samples W65-W66: EPDM compound, batch #1 & W67-W68: EPDM compound, batch #2

**Comments on assigned Data Flags for Test #687**

ATTQUQ (X) - Data for sample set W66-W67 are high.

V7NA2P (X) - Data for all Samples are high.

V9WC1E (X) - Data for all Samples are low.

**Instrument Code Listing**

**687 MDR Vulcanization-Cure Time 90% (minutes)**

**Instruments (as reported by the labs):**

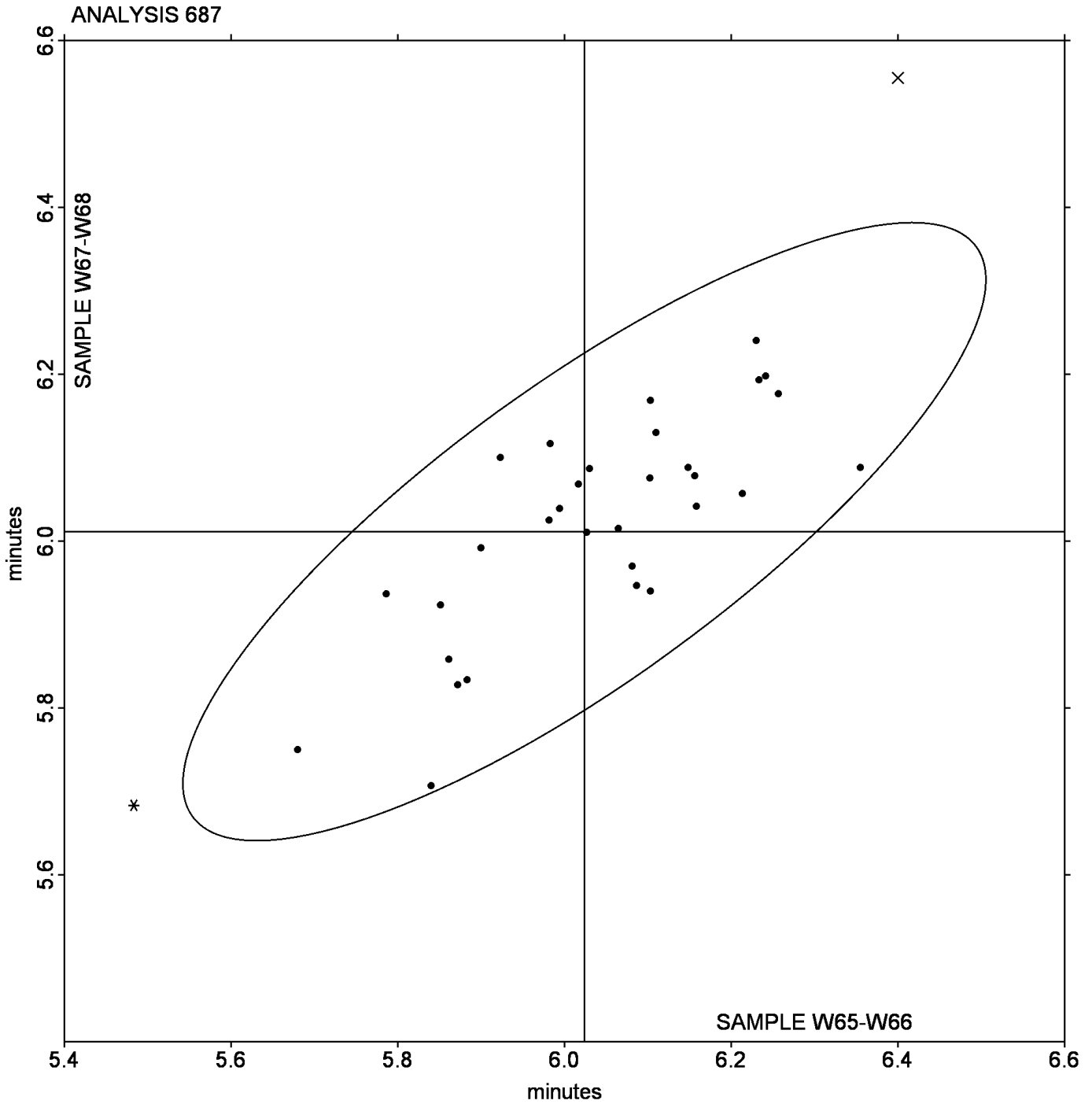
- |  |   |
|--|---|
| (MC) Alpha Technologies [Monsanto] MDR 2000 or 2000E | (MD) Alpha Tech. Rubber Process Analyzer (RPA 2000) |
| (MP) Alpha Technologies [Monsanto] MDR 2000P         | (TP) Tech Pro MDR model MDPT                        |
| (XX) Instrument model not specified by lab           |   |

Analysis 687

MDR Vulcanization-Cure Time 90% (minutes)

Grand Mean Sample W65-W66 = 6.0238 minutes

Grand Mean Sample W67-W68 = 6.0113 minutes



## Rubber Interlaboratory Testing Program

## Analysis 688

## MDR Vulcanization: Minimum Torque (lbf.in)

WebCode	Data Flag	Sample W65-W66			Sample W67-W68			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
11UASW		3.383	-0.073	-0.21	3.678	-0.017	-0.06	MC
167JH1		3.921	0.465	1.35	4.046	0.351	1.13	MC
1DKLKF		3.216	-0.240	-0.70	3.531	-0.164	-0.53	MD
2GXMW1		3.623	0.167	0.48	3.895	0.199	0.64	MC
479XS4		3.292	-0.164	-0.48	3.583	-0.112	-0.36	MC
4R2J76		3.757	0.300	0.87	3.960	0.264	0.85	TP
7RV4KX		4.048	0.592	1.72	4.178	0.483	1.55	MC
7XHK6G		2.968	-0.488	-1.41	3.212	-0.484	-1.56	TP
89Q5AK		3.393	-0.063	-0.18	3.517	-0.179	-0.57	MC
9THSHP		3.186	-0.270	-0.78	3.483	-0.213	-0.68	MC
ASYG3E		4.032	0.575	1.67	4.182	0.486	1.56	MC
BRT3MT		3.822	0.365	1.06	3.980	0.284	0.91	MC
BVM3NG		3.663	0.207	0.60	3.937	0.241	0.77	MC
H8Y25A	X	3.568	0.112	0.32	3.442	-0.254	-0.82	MC
JM56M4		3.340	-0.116	-0.34	3.525	-0.171	-0.55	MC
JM5MSE		3.118	-0.338	-0.98	3.328	-0.367	-1.18	MC
K8UNZN		3.415	-0.041	-0.12	3.637	-0.059	-0.19	MC
KYS941		3.918	0.462	1.34	3.952	0.256	0.82	MC
L8ZLCP		3.305	-0.151	-0.44	3.545	-0.151	-0.48	MC
LGHU9J		3.093	-0.363	-1.05	3.463	-0.232	-0.75	MC
LNC29R		3.251	-0.205	-0.59	3.514	-0.182	-0.58	MC
M6XW28		3.338	-0.118	-0.34	3.588	-0.108	-0.35	MP
M7UW2X		3.942	0.485	1.41	3.992	0.296	0.95	MC
N8KM13		3.740	0.284	0.82	3.918	0.223	0.72	MC
N965JX		3.372	-0.085	-0.25	3.662	-0.034	-0.11	MC
N9XZDL		3.003	-0.453	-1.31	3.210	-0.486	-1.56	TP
NTC2MS		3.518	0.062	0.18	3.765	0.069	0.22	MC
PU8XRF		3.319	-0.137	-0.40	3.675	-0.021	-0.07	MD
R83ZDS		3.107	-0.350	-1.01	3.413	-0.282	-0.91	MC
SL8VGK		3.117	-0.339	-0.98	3.453	-0.243	-0.78	MD
UVZDKQ		3.180	-0.276	-0.80	3.442	-0.254	-0.82	MC
W4R3KY		2.899	-0.557	-1.62	3.145	-0.551	-1.77	MD
X23TAC		4.035	0.579	1.68	4.287	0.591	1.90	XX
XJBLD7		3.265	-0.191	-0.55	3.622	-0.074	-0.24	MD
Z12JPY	*	3.933	0.477	1.38	4.333	0.638	2.05	MC

## Analysis 688

## MDR Vulcanization: Minimum Torque (lbf.in)

## Summary Statistics

## Grand Means

3.4563 lbf.in

3.6956 lbf.in

## Std Dev Btwn Labs

0.3449 lbf.in

0.3111 lbf.in

Statistics based on 34 of 35 reporting participants

## Summary Statistics in SI Units

## Grand Means

3.9051 dN.m

4.1754 dN.m

## Std Dev Btwn Labs

0.3897 dN.m

0.3515 dN.m

Statistics based on 34 of 35 reporting participants

Samples W65-W66: EPDM compound, batch #1 &amp; W67-W68: EPDM compound, batch #2

Comments on assigned Data Flags for Test #688

H8Y25A (X) - Inconsistency in testing between Sample sets. Also inconsistent within the determinations for Sample set W65-W66.

Instrument Code Listing

## 688 MDR Vulcanization: Minimum Torque (lbf.in)

Instruments (as reported by the labs):

(MC) Alpha Technologies [Monsanto] MDR 2000 or 2000E

(MD) Alpha Tech. Rubber Process Analyzer (RPA 2000)

(MP) Alpha Technologies [Monsanto] MDR 2000P

(TP) Tech Pro MDR model MDPT

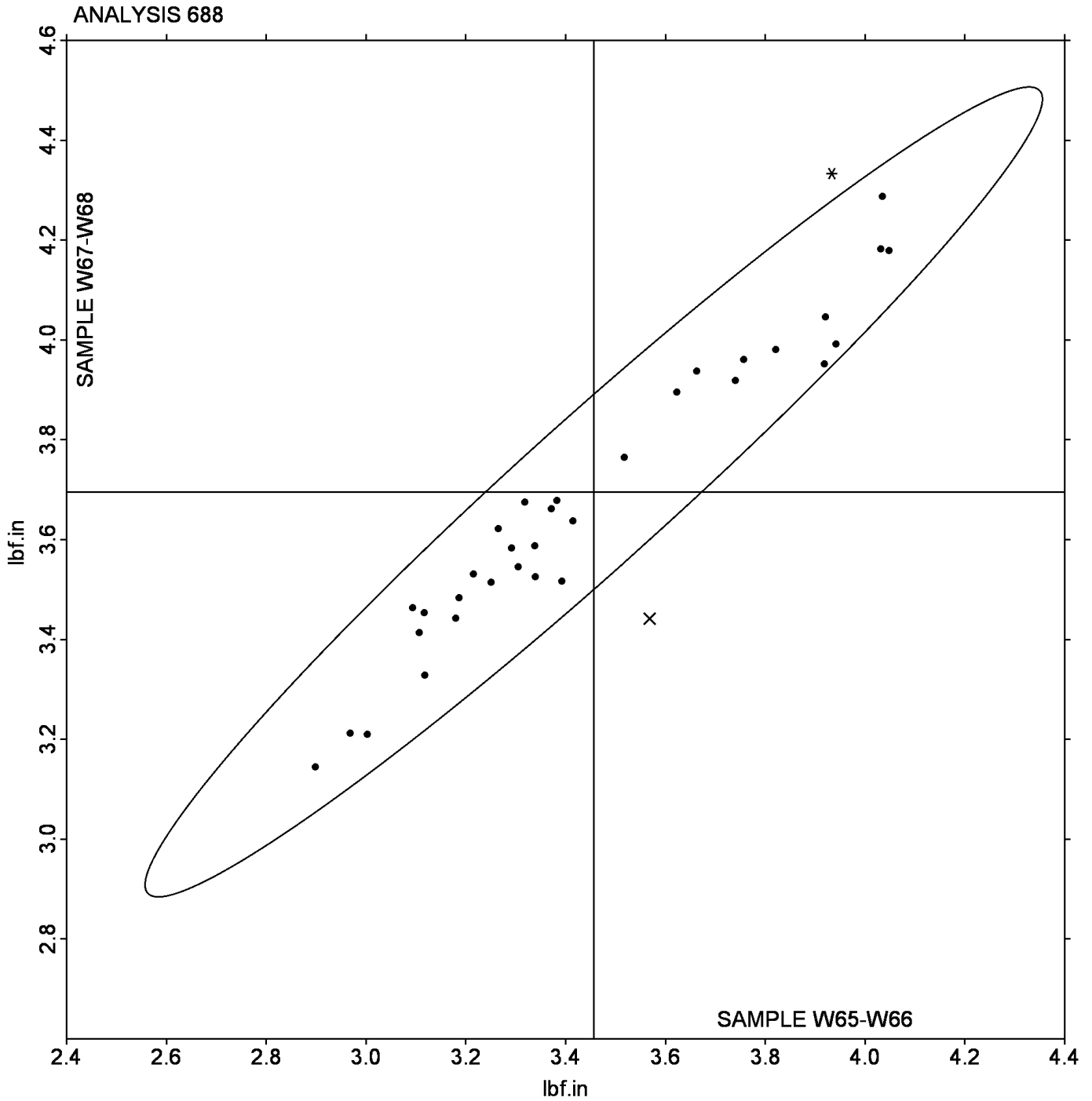
(XX) Instrument model not specified by lab

Analysis 688

MDR Vulcanization: Minimum Torque (lbf.in)

Grand Mean Sample W65-W66 = 3.4563 lbf.in

Grand Mean Sample W67-W68 = 3.6956 lbf.in



## Rubber Interlaboratory Testing Program

## Analysis 689

## MDR Vulcanization: Maximum Torque (lbf.in)

WebCode	Data Flag	Sample W65-W66			Sample W67-W68			Instr Code
		Lab Mean	Diff from Grand Mean	CPV	Lab Mean	Diff from Grand Mean	CPV	
141YU1		13.75	0.53	0.75	13.70	0.61	0.82	MC
1KLY5S		14.88	1.66	2.35	14.80	1.70	2.31	MC
28H626		13.97	0.75	1.06	13.97	0.88	1.19	MC
56NXQE		12.86	-0.36	-0.51	12.69	-0.41	-0.56	MC
5SVMKD		13.19	-0.03	-0.04	13.23	0.13	0.17	MC
6JE9X4		13.60	0.38	0.54	13.45	0.36	0.48	XX
6ZZJLR		13.42	0.20	0.28	13.21	0.11	0.15	MC
7HYGML		13.66	0.44	0.63	13.47	0.37	0.51	MP
94ZZBP		13.20	-0.02	-0.03	13.13	0.03	0.04	MC
96JKS8		13.50	0.28	0.40	13.57	0.47	0.64	MC
A1YRLS		12.96	-0.26	-0.37	12.92	-0.17	-0.24	MD
BMTU87		12.93	-0.29	-0.41	12.72	-0.38	-0.51	MC
C3PXSF	X	14.33	1.11	1.57	12.62	-0.47	-0.64	MC
D1TC42		13.05	-0.17	-0.25	13.04	-0.06	-0.08	MD
DBJAJ8		13.77	0.55	0.79	13.54	0.44	0.60	MC
DC5HGQ		13.21	-0.01	-0.02	13.15	0.05	0.07	MC
EZX4VX		13.51	0.29	0.41	13.23	0.13	0.17	MC
FR86U8		13.88	0.66	0.93	13.75	0.65	0.88	MC
GDHJF2	*	11.17	-2.05	-2.90	10.81	-2.29	-3.10	TP
GYES8C		13.20	-0.02	-0.03	13.28	0.19	0.25	MC
JLFRKK		13.65	0.43	0.61	13.56	0.46	0.62	MC
L36J9P		13.69	0.47	0.67	13.54	0.44	0.59	MC
LAZZC9		13.73	0.51	0.73	13.49	0.39	0.52	MC
NACQLW		12.47	-0.75	-1.06	12.26	-0.83	-1.13	MC
NGDX6R		13.36	0.14	0.20	13.22	0.12	0.16	TP
NMHSYF	X	12.56	-0.66	-0.93	13.09	0.00	-0.01	MC
PS6YXF		12.82	-0.40	-0.57	12.73	-0.36	-0.49	MD
Q22FS9		11.61	-1.61	-2.28	11.48	-1.61	-2.19	MD
Q9DRSN		13.46	0.24	0.34	13.41	0.32	0.43	MC
QW6UG8		13.00	-0.22	-0.31	12.71	-0.39	-0.52	MC
T3D44W		13.44	0.22	0.32	13.29	0.19	0.26	MC
T7G94G		13.30	0.08	0.12	13.23	0.14	0.18	MC
XGV4TE		13.23	0.01	0.01	13.24	0.14	0.19	MD
Z5K4RY		11.68	-1.54	-2.18	11.61	-1.49	-2.02	TP
ZM8WJ3		13.10	-0.12	-0.17	12.82	-0.28	-0.38	MC

## Rubber Interlaboratory Testing Program Analysis 689

### MDR Vulcanization: Maximum Torque (lbf.in)

Grand Means		Summary Statistics	
	13.219 lbf.in		13.098 lbf.in
Std Dev Btwn Labs	0.706 lbf.in		0.738 lbf.in
Statistics based on 33 of 35 reporting participants			

Grand Means		Summary Statistics in SI Units	
	14.935 dN.m		14.799 dN.m
Std Dev Btwn Labs	0.798 dN.m		0.834 dN.m
Statistics based on 33 of 35 reporting participants			

Samples W65-W66: & W67-W68: EPDM compound, batch #2

#### Comments on assigned Data Flags for Test #689

C3PXS F (X) - Inconsistency in testing between Sample sets. Also inconsistent in testing within the determinations for Sample sets W65-W66.

NMHSY F (X) - Inconsistency in testing between Sample sets. Also inconsistent in testing within the determinations for Sample sets W65-W66.

#### Instrument Code Listing

**689 MDR Vulcanization: Maximum Torque (lbf.in)**

##### Instruments (as reported by the labs):

- |  |   |
|--|---|
| (MC) Alpha Technologies [Monsanto] MDR 2000 or 2000E | (MD) Alpha Tech. Rubber Process Analyzer (RPA 2000) |
| (MP) Alpha Technologies [Monsanto] MDR 2000P         | (TP) Tech Pro MDR model MDPT                        |
| (XX) Instrument model not specified by lab           |   |

Analysis 689

MDR Vulcanization: Maximum Torque (lbf.in)

Grand Mean Sample W65-W66 = 13.219 lbf.in

Grand Mean Sample W67-W68 = 13.098 lbf.in

